Performing Modernism
Webern on record

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Performing modernism: Webern on record

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Abstract

This thesis examines performance style in commercial recordings of the works of Anton Webern. Considering style not as a 'surface' issue but one essential to questions of musical meaning, I explore the relationships between the sound of Webern recordings and the ways in which people have understood his music. This question is addressed from both historical and psychological perspectives and using both critical and empirical methodologies.

In Chapter 1, I argue that Webern favoured a particular kind of pre-war performance style for his works, before moving on in Chapter 2 to an historical survey of Webern recordings and reception from the 1930s to the present day. I outline the idea, proposed by Timothy Day and others, that performers have moved away from the dry 'pointillism' of Robert Craft's pioneering 1950s LP set towards a more 'lyrical' and 'expressive' Webern style. In Chapter 3, I analyse this trend in more detail and relate it to broader changes in twentieth-century performance styles and recording practices.

Chapters 4 to 6 are case studies of particular passages or works by Webern based on recording data. Chapter 4 examines string quartet intonation in a passage from Op. 5 no. 5, Chapter 5 discusses timing in the first movement of the Op. 27 Piano Variations and Chapter 6 considers vocal portamento in recordings of the Op. 14 Trakl songs. The empirical results in each of these chapters are related to wider critical issues such as the ideological significance of equal temperament, the relationship between musical structure and expressive performance and the construction of a lyrical voice. Studies on music perception, record reviews and material from interviews with performers are used to inform discussions of the links between sound and meaning. An original and extensive Webern discography is included on the accompanying DVD.

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*

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Contents

Note on the text

Short references are given in the footnotes and a full reference list appears at the end. Figures, tables and notated musical examples are laid out in Appendices A-C and audio examples are provided on the accompanying DVD. The reader is invited to refer to these at the relevant points in the text. Where not part of a sentence, these are referred to in square brackets e.g. [Audio 1] for a sound example or [Example 1] for a notated musical example.

Some material used has been translated into English from German sources. For sources translated by the author, the original German is provided in the footnotes. When only a single word or short phrase was translated, the German is provided in square brackets after the English, rather than in a footnote e.g. slow [langsam]. All non-English musical terms, names of institutions and so forth (e.g. rubato, mäßig, Singverein) appear in regular roman type rather than italics.

The italicisation and spelling of quotations follows the conventions of the original source, except in the case of words underlined for emphasis, which are reproduced in italics. Single quotation marks (‘’) are used for short, non-indented quotations and for single words in inverted commas. Quotations within quotations appear in double quotation marks (“”).

Basic statistical analyses (means, standard deviations) were conducted in MS Excel and more complex analyses (linear regressions, *t*-tests) in the statistical program R (http://www.r-project.org/). A star system is used to denote the significance levels of results:

***	$p < .001$	Highly significant
**	$p < .01$	Very significant
*	$p < .05$	Significant
†	$p < .10$	Approaching significance

Graphs were produced in either Excel or R and tables were produced in MS Word. Score examples were scanned from the published versions of the scores and other notated examples were produced using Finale.

The dates of recordings denote the year the recording was made, not the year of its commercial release (where different). In some cases, the recording year was unknown, but could be placed with confidence to within a small range (e.g. 1993 or 1994), in which case the earliest possible date was used in analyses and subsequent figures and tables. In a very few early recordings, the year of recording was unknown but likely to be close to the release year, so this was used instead. A complete list of the years recordings were made and commercially released, where known, is provided in the Discography on the accompanying DVD.

Timings are reproduced in the format mins:secs. The timing data for Chapters 1 and 5 (but not the average duration data in Chapter 3) was gathered by tapping on the beats using Sonic Visualiser and manually correcting the taps. Sonic Visualiser converted the resulting inter-onset interval (IOI) measurements into a set of metronome mark values for every note. In cases where recorded tempi are referred to in the text using a metronome mark, this was measured conventionally using a metronome.

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List of notated musical examples

Note on the audio examples

The audio examples are available as wav files on the accompanying DVD and are listed below, with details of their original sources and formats. The catalogue numbers of other recordings cited without an audio example are provided in the footnotes. Catalogue numbers and all other known release details for Webern recordings, including many not mentioned in the text, can be found in the Discography on the accompanying DVD. Several recordings, including the 1957 Craft set, are digital transfers from LPs or 78s, edited in Audacity (http://audacity.sourceforge.net/). In other cases, such as the 1978 Boulez set, the commercial CD reissue was used instead of the original vinyl. All sound files have been converted to wav format. I aimed to use lossless original formats, although mp3 and mp4 files were very occasionally used. The files have been amplified in Audacity to make them comfortable to listen to at a low to medium volume. Examples 42 and 43 (marked * below) were both amplified to a peak of -0.5dB. The relative loudness of the beginnings to the ends of these examples was preserved as it was in the original recording (the beginning was not amplified separately) to allow their dynamic ranges to be heard. No processes apart than amplification were applied to any sound files (for example, no noise reduction was used).

List of audio examples

Audio 1	Schoenberg, String Quartet no. 1, Op. 7, opening. Kolisch Quartet. Recorded 29 December 1936, first released 1950 on Alco (ALP 1002). This CD transfer released 2003 on Music and Arts (CD-1056).
Audio 2	Bach, Air on the G String. Rosé Quartet. Recorded 1928, first released on HMV (D1553). This CD transfer released 1992 on Biddulph (OOP LAB 056/-57).
Audio 3	Berg, Violin Concerto, opening of first movement. BBC Symphony Orchestra, Anton Webern (conductor), Louis Krasner (violin). Recorded 1 May 1936 (private recording). CD transfer first released 1991 on Continuum (SBT 1004).
Audio 4	Schubert, German Dance No. 1 (op. post D820). Frankfurt Radio Orchestra, Anton Webern (conductor). Recorded live, 29 December 1932. First released 1978 on CBS (79204). This CD transfer released 1991 on Sony (SM3K 45845).
Audio 5	Schubert, German Dance No. 1. Berlin Philharmonic Orchestra, Pierre Boulez (conductor). Recorded 1993, released 1995 on Deutsche Grammophon (447 0992 GH). This release 2000 on Deutsche Grammophon (457 6372).
Audio 6	Schubert, German Dance No. 1. Philharmonia Orchestra, Robert Craft (conductor). Recorded July 2002, released 2005 on Naxos (8.557530).
Audio 7	Schubert, German Dance No. 3. Webern 1932 [details as 4 above].
Audio 8	Berg, Violin Concerto, slide at bar 53 [extract covers bars 50-53]. Webern 1936 [details as 3 above].
Audio 9	Schubert, German Dance No. 2. Webern 1932 [details as 4 above].
Audio 10	Schubert, German Dance No. 4. Webern 1932 [details as 4 above].
Audio 11	Schubert, German Dance No. 4. Craft 2002 [details as 6 above].
Audio 12	Berg, Violin Concerto, final chord. Webern 1936 [details as 3 above].

Audio 13	Webern, String Trio, Op. 20, first movement (sehr langsam). Kathleen Washbourne Trio. Recorded and released 1939 on Decca (K904). Transferred from 78.
Audio 14	Webern, Quartet, Op. 22, second movement (sehr schwungvoll). Ensemble: Francis Chaplin (violin), Earl Thomas (clarinet), C. Clyde Williams (tenor saxophone), Jacques-Louis Monod (piano), René Leibowitz (conductor). Probably recorded in 1950 or 1951, released 1951 on Dial (17). Digital transfer from LP. Some distortion at end of file.
Audio 15	Quartet, Op. 22, second movement (sehr schwungvoll). Ensemble conducted by Robert Craft: Ralph Schaeffer (violin), Mitchell Lurie (clarinet), William Ulyate (tenor saxophone), and Leonard Stein (piano). Recorded 1954, released 1957 on Columbia (K4L-232). This version released 1959 on Philips (L 09417). Digital transfer from LP.
Audio 16	Piano Variations, Op. 27, first movement (sehr mäßig). Peter Stadlen (piano). Recorded 1948, CD transfer of tape released 1996 on Col Legno (31893).
Audio 17	Second Cantata, Op. 31, no. 6: 'Gelockert aus dem Schoße'. Chorale Elisabeth Brasseur, Orchestre du Domaine musical, Boulez (conductor). Recorded 1956, first released 1957 on Véga (C30 A120). This CD reissue released 2006 on Accord (476 8862).
Audio 18	Second Cantata, Op. 31, no. 6: 'Gelockert aus dem Schoße'. John Alldis Choir, London Symphony Orchestra, Boulez (conductor). Recorded 1969, first released 1978 on CBS (79204). This CD reissue 1991 on Sony (SM3K 45 845).
Audio 19	Six Pieces for Orchestra, Op. 6, no. 2 (bewegt). Revised version (1928). Berlin Philharmonic Orchestra, Herbert von Karajan (conductor). Recorded 1973, first released 1974 on Deutsche Grammophon (2711 014). CD version reissued 1989 on Deutsche Grammophon (427 4242). Wav from m4a of CD version.
Audio 20	Six Pieces for Orchestra, Op. 6, no. 2 (bewegt). Original version (1909). London Symphony Orchestra, Boulez (conductor). Recorded 1969, first released 1978 on CBS (79204). This CD reissue 1991 on Sony (SM3K 45 845).
Audio 21	Quartet, Op. 22, first movement (sehr mäßig). Instrumental ensemble: Daniel Majeske (violin), Robert Marcellus (clarinet), Abraham Weinstein (tenor saxophone), Charles Rosen (piano), Boulez (conductor). Recorded 1970 [other details as 18 above.].
Audio 22	Quartet, Op. 22, first movement (sehr mäßig). Members of the Ensemble Intercontemporain including Pierre-Laurent (piano), Boulez (conductor). Recorded 1992, first released 1995 on Deutsche Grammophon (437 7862 GH), this release 2000 on Deutsche Grammophon (457 6372).
Audio 23	Five Latin Canons, Op. 16, no. 1: 'Christus factus est'. Grace Lynne-Martin (soprano), Mitchell Lurie (clarinet), William Ulyate (bass clarinet). Recorded 1954 [other details as 15 above].
Audio 24	Five Latin Canons, Op. 16, no. 1: 'Christus factus est'. Jennifer Welch-Babidge (soprano), Charles Neidich (clarinet), Michael Lowernstern (bass clarinet). Recorded 2003 or 2004, released 2005 on Naxos (8.557530).
Audio 25	Piano Variations, Op. 27, third movement (ruhig fließend), bars 45-55. Yvonne Loriod (piano). Recorded and released 1961 on Véga (C30 A309). Digital transfer from LP.

Audio 26	Piano Variations, Op. 27, third movement (ruhig fließend), bars 45-55. Stephen Hough (piano). Recorded 2006, released 2007 on Hyperion (CDA 67564).
Audio 27	Op. 29 Cantata, first movement ('Zündender Lichtblitz'), bar 1. Boulez 1956 [details as 17 above].
Audio 28	Op. 29 Cantata, first movement ('Zündender Lichtblitz'), bar 1. Boulez 1969 [details as 18 above].
Audio 29	Symphony, Op. 21, second movement, bars 12-22 (Variation 1). Paris Chamber Orchestra, René Leibowitz (conductor). Recorded and released 1950 on Dial (7). Digital transfer from LP.
Audio 30	Four Songs, Op. 13, no. 4: 'Ein Winterabend', bar 14. Grace-Lynne Martin (soprano), chamber ensemble, Craft (conductor). Recorded between 1954 and 1956, Philips L 09416. Digital transfer from LP.
Audio 31	Four Songs, Op. 13, no. 4: 'Ein Winterabend', bar 14. Heather Harper (soprano), chamber ensemble, Boulez (conductor). Recorded 1967 [other details as 4 above].
Audio 32	Bach arr. Webern, Ricercare from the *Musical Offering*, bars 1-19. Vienna Philharmonic Orchestra, Claudio Abbado (conductor). Recorded 1990, released 1993 on Deutsche Grammophon (431 7742 GH).
Audio 33	Concerto for Nine Instruments, Op. 24, second movement (sehr langsam). Instrumental ensemble, Craft (conductor). Recorded 1956. Philips L 09416. Digital transfer from LP.
Audio 34	Concerto for Nine Instruments, Op. 24, second movement (sehr langsam). Instrumental ensemble, Craft (conductor). Recorded 2003-04, released 2005 on Naxos (8.557530).
Audio 35	Five Movements for String Quartet, Op. 5, no. 2 (sehr langsam). Juilliard Quartet: Robert Mann (violin 1), Isidore Cohen (violin 2), Raphael Hillyer (viola), Claus Adam (cello). Recorded 1959, first released 1961 on RCA Victor (LM/LSC 2531). This CD version released 2005 on Testament (SBT 1375).
Audio 36	Five Movements for String Quartet, Op. 5, no. 2 (sehr langsam). Dorothy Wade (violin 1), Ward Fenley (violin 2) Milton Thomas (viola), Emmet Sargeant (cello). Probably recorded 1954 [other details as 15 above].
Audio 37	Variations for Orchestra, Op. 30, bars 19-47. Staatskapelle Dresden, Giuseppe Sinopoli (conductor). Recorded 1996, first released 1999 on Teldec Classics. This extract taken from the 2003 release on Elatus (0927-49832-2).
Audio 38	Piano Variations, Op. 27, first movement, bars 37-41. Christopher Oldfather (piano). Recorded 2003, released 2005 on Naxos (8.557530).
Audio 39	Four Songs, Op. 12, no. 1: 'Der Tag ist Vergangen'. Svetlana Savenko (soprano) and Yuri Polubelov (piano). Recorded 2003 or 2004, released 2007 on Naxos (8.570219).
Audio 40	Concerto, Op. 24, third movement (sehr rasch). Orchestre du Domaine musical, Gilbert Amy (conductor). Recording date unknown but during 1960s, released during 1960s on Production Disques Adès (15007). Digital transfer from LP.
Audio 41	Concerto, Op. 24, third movement (sehr rasch). Ensemble Intercontemporain, Pierre-Laurent Aimard (piano), Boulez. Recorded 1992 [other details as 22 above].
Audio 42	*Six Pieces, Op. 6, no. 4 (sehr mäßig), bars 1-14 and 38-40 (fadeout between each extract). Columbia Orchestra, Craft. Recorded 1956. Philips L 09415. Digital transfer from LP.

Audio 43	*Six Pieces, Op. 6, no. 4 (sehr mäßig), bars 1-14 and 38-40 (fadeout between each extract). Cleveland Orchestra, Christoph von Dohnányi (conductor). Recorded 1992, released 1998 on Decca (444 593-2).
Audio 44	Five Canons on Latin Texts, Op. 16, no. 2: 'Dormi Jesu'. Christiane Oelze (soprano), unnamed clarinettist of the Ensemble Incontemporain. Recorded 1992 [other details as 22 above].
Audio 45	Four Pieces for Violin and Piano, Op. 7, no. 4 (bewegt), bars 10-15. Ralph Schaeffer (violin) and Leonard Stein (piano). Recorded 1954 [other details as 15 above].
Audio 46	Four Pieces for Violin and Piano, Op. 7, no. 4 (bewegt), bars 10-15. Irvine Arditti (violin) and Stefan Litwin (piano). Recorded 1994, released 2003 on Naïve/Disques Montaigne (NAI 782069).
Audio 47	Five Pieces for Orchestra, Op. 10 no. 1 (sehr ruhig und zart), bars 9-10. Vienna Philharmonic Orchestra, Claudio Abbado (conductor). Recorded 1990, released 1993 on Deutsche Grammophon (431 7742 GH).
Audio 48	Piano Variations, Op. 27, third movement (ruhig fließend), bars 56-66. Ingrid Karlen (piano). Recorded 1996, released 1997 on ECM New Series (1606 449936-2).
Audio 49	Six Pieces, Op. 6 no. 1, bars 1-2. Vienna Philharmonic, Abbado. Recorded 1990 [other details as 47 above].
Audio 50	Six Pieces, Op. 6 no. 1, bars 1-2. London Symphony Orchestra, Boulez. Recorded 1969 [other details as 4 above].
Audio 51	Five Movements for String Quartet, Op. 5 (string orchestra arrangement), no. 4 (sehr langsam). Philharmonia Orchestra, Craft. Recorded 2007, released 2009 on Naxos (8.557531).
Audio 52	Five Movements for String Quartet, Op. 5 (string quartet version), no. 5 (in zarter Bewegung), bars 1-9. Quatuor Parisii. Recorded 1991, released 1993 on Accord (20164-2).
Audio 53	Op. 5, no. 5, bars 1-9. Schoenberg Quartet. Recorded 2000, released 2003 on Chandos (10083).
Audio 54	Op. 5 no. 5, bars 1-4. Kroft Quartet. Recorded 1983, release year unknown. Supraphon (1111 3610).
Audio 55	Op. 5, no. 5, bars 1-4. Artis Quartett. Recorded 1999, released 2001 on Nimbus (NI 5668).
Audio 56	Op. 5, no. 5, bars 1-4. Artis Quartett. Recorded 1991, released 1992 on Sony Classical (SK 48059).
Audio 57	String Quartet, Op. 28, first movement (mässig). Juilliard Quartet. Recorded 1970 [other details as 18 above].
Audio 58	Op. 5, no. 5, bars 1-4. Juilliard Quartet. Recorded 1952, released 1953 on Columbia Special Products (SL 188). Digital transfer from LP.
Audio 59	Op. 5, no. 5, bars 1-4. Pro Arte Quartet. Recorded and released 1950 on Dial 7.
Audio 60	Op. 5, no. 5, bars 1-4. Emerson Quartet. Recorded 1992, first released 1995 on Deutsche Grammophon (445 8282 GH). This release 2000 on Deutsche Grammophon (457 6372).
Audio 61	Op. 5, no. 5, bars 1-4. Quartetto Italiano. Recorded 1970, released 1971 on Philips (6 500 105). This CD release 1988 on Philips Classics (420 796-2PH).
Audio 62	Op. 27 Piano Variations, first movement. Mitsuko Uchida (piano). Recording of live concert from Royal Festival Hall, 20 May 2009. Broadcast on Radio 3, Thursday 18 June 2009. Wav from web stream.

Audio 63	Op. 27, first movement. Christoph Eschenbach (piano). Recorded 1996, released 2001 on Koch.
Audio 64	Op. 27, first movement. Jeanne Manchon-Theïs (piano). Recorded 1954, first released on Ducretet-Thompson (LAP 1059). This release 1995 on Telefunken (MEL 94008). Digital transfer from LP.
Audio 65	Op. 27, first movement. Steffen Schleiermacher (piano). Recorded 2002, released 2005 on MDG (613 1282-2).
Audio 66	Op. 27, first movement. Krystian Zimerman (piano). Recorded 1995, released 2000 on Deutsche Grammophon (457 6372).
Audio 67	Op. 27, first movement. Leonard Stein (piano). Recorded 1954, first released 1957 on Columbia (K4L-232). This release 1959 on Philips (L 09416). Digital transfer from LP.
Audio 68	Op. 27, first movement. Mitsuko Uchida. Recorded 2000, released 2003 on Philips Classics (289 468 933-2).
Audio 69	'Gesang einer gefangenen Amsel', from Six Songs for voice, clarinet, bass clarinet, violin and cello, Op. 14. Tony Arnold (soprano), Twentieth Century Classics Ensemble, Craft. Recorded 2008, released 2009 on Naxos 8.557531.
Audio 70	'Die schweren Lider' from 'Die Sonne', Six Songs, Op. 14. Heather Harper (soprano), Ensemble, Pierre Boulez (conductor). Sony (SM3K 45 845).
Audio 71	'Die schweren Lider'. Dorothy Dorow (soprano), Schönberg Ensemble, Reinbert de Leeuw (conductor). Recorded 1986, released 1989 on Koch Schwann/Musica Mundi (314 005 H1).
Audio 72	'Steigt im grünen Weiher' from 'Die Sonne'. Dorothy Dorow [other details here and in following examples as 71 above].
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Audio 75	'So leise' from 'Gesang…', Dorow.
Audio 76	'Tau' from 'Gesang…', Harper.
Audio 77	'Tau', Dorow.
Audio 78	'Strahlende Arme erbarmen' from 'Gesang…', Dorow.
Audio 79	'O! wie Stille' from 'Nachts', Harper.
Audio 80	'O! wie Stille', Dorow.
Audio 81	'Dein roter Mund' from 'Nachts', Harper.
Audio 82	'Dein roter Mund', Dorow.
Audio 83	'Nächtigen Schatten' from 'Abendland I', Dorow.
Audio 84	'Nächtigen Schatten'. Claudia Barainsky (soprano), Axel Bauni (piano). Recorded 1994, released 1995 on Orfeo C 411 951 A.
Audio 85	'Silbern weint ein Krankes' from 'Abendland I', Harper.
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Audio 88	'Fallende Sterne' from 'Abendland III', Dorow.

Introduction

The music of Anton Webern has had a unique reception history. Although relatively little appreciated in his own lifetime, his atonal and serial music later had a great influence on developments in composition and theoretical musicology. It was adopted enthusiastically, first by the European avant-garde and later by theorists and analysts in Europe and America, as a shining example of how to write serial music. Webern himself was an active conductor but made no recordings of his own music. Indeed, though his entire compositional career – from the early 1900s to his death in 1945 – falls within the recording era, only one recording of a Webern work was made during his lifetime.[1] The years since 1950, however, have seen a proliferation of recordings of his music and a fairly large number are now commercially available, including three separate 'complete works' boxed sets (and two volumes of a fourth).[2] Listening to these recordings, one immediately becomes aware that the sound of Webern on record in the 1950s was not the same as it is today. Timothy Day observed in his 2000 book *A Century of Recorded Music* that 1950s orchestral performances of Webern's late serial works 'emphasized the fragmentary nature of the music […] the exiguous textures and the wide range of pitches and the sudden dynamic contrasts, and presented a rather jagged, hard-edged profile'. But throughout the 1960s and 1970s, he argued, they 'began to emphasize continuities, to discover the lines that might be constructed from the flecks and flashes of different colours and timbres, and these later performances created soft, subtler, more flexible contours.'[3] Day related this to changing ideas about Webern (particularly those held by Pierre Boulez) but his discussion of the topic was largely impressionistic rather than analytical. The observation that Webern performance style has changed since the 1950s has been made by several others from the late 1970s onwards – in reminiscences by performers,[4] record reviews[5] or other journalistic pieces[6] – but their comments tend to be informal or very brief. This study will build on Day's work and evaluate the idea of a style change in Webern performance in more depth, find

[1] A 1939 recording of the Op. 20 String Trio by the Kathleen Washbourne Trio (Decca K904), discussed in 2.1.
[2] Columbia K4L-232 and Philips L09414-7 (reissued on Naxos 9.80271-3); CBS 79204 (reissued on Sony SM3K 45845); Deutsche Grammophon 457 6372; Naxos 8.557530-1. See discography on the attached DVD. Whittall (2004) discusses many of the most important Webern recordings.
[3] Day (2000), 178. See also 117-18 and especially 178-85.
[4] Cerha (2001); Levin in Pauli (1984).
[5] Burde (1979); Rich (1979).
[6] Page (1995); Wolf (2007).

out to what extent it is evidenced by Webern recordings and explore its further implications for the understanding of the relationship between performance style and musical meaning.

In Chapter 1, I explore the Schoenberg School performance tradition and argue that Webern favoured a particular kind of pre-war performance style for his music that stood in striking contrast to the style generally adopted after his appraisal by the avant-garde in the early 1950s. In Chapter 2, I outline the 70-year recording history of Webern's music and situate it within a history of Webern reception, linking receptive themes to the broad change in Webern performance style observed by Day and others away from the 'pointillist' style of Robert Craft's influential 1950s recordings towards a more 'expressive' approach. Sound examples from commercial recordings are used to inform the discussion. A larger number of sound examples are referred to in the first half of Chapter 3, which breaks down the trends in the sound of Webern recordings by musical parameter and includes a basic empirical study of average tempo in recordings. In the second half of the chapter, I discuss the possible reasons for this shift in Webern performance style and in the sound of recordings. First exploring in more depth the central roles played by Pierre Boulez and Robert Craft, I then relate the Webern trends to broader changes in twentieth-century classical performance style. Finally, I investigate the possible impact of developments in recording technology on both the sound of Webern recordings and the practice of performance.

While Chapters 1 to 3 are predominantly historical and discuss stylistic trends in broad, general terms, Chapters 4 to 6 are based around empirical case studies of particular passages or works by Webern, each focused on a particular aspect of performance. Chapter 4 is a study of string quartet intonation in recordings of a short passage from the fifth of Webern's Five Pieces for String Quartet, Op. 5. Fundamental frequency data gathered from 21 different recordings of the first four bars are subjected to a series of statistical analyses and the results used as the basis for a discussion of melodic and harmonic intonation patterns, both on a general level and within specific recorded examples. I also ask whether the Schoenberg School belief that equal temperament was essential in performances of atonal music has been borne out by recordings. The second case study, in Chapter 5, situates a timing analysis from 51 recordings of the first movement of the Piano Variations, Op. 27, in the context of its rich reception history and asks how the dichotomies that have often been read into this

work by theorists and critics – between the structural and the expressive, the architectonic and the dynamic – have been dealt with in recordings by performers. The ways in which pianists' timing and dynamics relate to serial, phrase and metrical structure are considered and related to a wider discussion of the nature of the relationship between musical structure and expression. In the third case study, in Chapter 6, I consider vocal pitch slides in six recordings of Webern's Op. 14 song cycle on poems by Georg Trakl, noting the points at which singers use portamenti most often and what their function seems to be. I then subject the notion of Webernian 'lyricism' to critical scrutiny. What does it mean, in practice, to perform these songs lyrically? How do performers execute the balancing act between conveying a continuous melodic vocal line and portraying the rapidly changing emotions and images suggested by the music and text? I also discuss the ways in which the recordings can be heard in terms of a more or less fragmented musical subjectivity. The three case studies therefore take three theoretical facets of musical modernism – equal-tempered tuning, structural architectonicism and the fragmentation of the subject – and examine whether and, if so, how they relate to the practical realities of performing and recording Webern's scores and to the sound of recordings. In a short concluding chapter, I briefly discuss some of the themes emerging from the study and outline some directions for further research.

The primary resources used are 263 recordings of Webern's 31 works with opus numbers.[7] Figure 1 shows the number of recordings of each work consulted for this thesis. Barring a very small number of recorded radio broadcasts, all these recordings have been commercially released on LP or CD.[8] Most are studio rather than live recordings and I have not distinguished between these except where specifically relevant. In treating live and studio recordings as equivalent, I have made the assumption that they are sufficiently similar to one another to both be treated as primary documents. This is not to deny that there are important differences between them, as

[7] I include recordings of Webern's string orchestra arrangement of his Op. 5 string quartet pieces but not recordings of his juvenilia or other non-opus-numbered works (see Chapter 2). This is partly just to limit the topic and partly because they were not published until the 1960s onwards and so have a shorter performance history, making stylistic comparisons less fruitful. Moreover the stylistic challenges presented to the performer by the juvenilia are arguably very different and more generic than those of Webern's later music, when he had found his unique compositional 'voice'.

[8] With two exceptions: the Washbourne Trio recording (Decca K904) was transferred from a 78 and one audio rip of a DVD was used – Glenn Gould's 1974 performance of the Op. 27 Piano Variations, featured on 'The Alchemist' documentary film (EMI Classics).

many have pointed out.[9] Investigating performance style through recordings requires us to take account of the ways in which a recording is always technologically mediated[10] and can be more a virtual projection of an idealised performance than a document of an actual musical event.[11] This is particularly the case in modern studio recordings, which are normally edited together from numerous short takes. Editing is not something I discuss here, although I do touch on some aspects of the recording and engineering process such as balancing and microphone placement in a general sense in Chapter 3, as well as considering the ways in which practices afforded by recording technology have affected performance styles and modes of listening. However, to delve into every potentially relevant aspect of the recording process is beyond the scope of this study. I focus primarily on the sound, the end result: it is the questions of why the sounds make sense when listening and what kind of sense they make that interest me.

In this respect, this study can be seen as part of what Alf Björnberg has called 'the coming of age of the "musicology of recorded sound" as an important discipline in its own right'.[12] A growing branch of musicology is focused on performance (rather than scores) and on the sound of recordings. The study of classical performance style through recordings is one important sub-branch that has emerged over the last 20 years or so, made possible by the availability of 100 years of recorded music and the opportunities for direct stylistic comparison it provides.[13] Published studies on performance style include general histories of classical performance style since the beginning of the recording era,[14] performance-stylistic histories of particular

[9] For example Trezise (2008); Blier-Carruthers (2009) and Heaton (2009).
[10] The history of sound recording is a huge topic in its own right. For general histories of sound recording, see Gelatt (1977); Copeland (1991) and Beardsley and Leech-Wilkinson (2009). For a history of the recording industry, see Gronow and Saunio (1998). For cultural histories and philosophical discussions of sound reproduction, see Chanan (1995); Eisenberg (2005); Sterne (2003) and Katz (2004). A practical outline of the tasks facing a modern classical sound engineer is given in Hallifax (2004).
[11] Andrew Hallifax writes: 'Instead of trying to capture the "concert hall experience" – which, acoustically speaking, is generally less than ideal for most people – the aim of the recording team should instead be to render an *ideal* concert acoustic in every listener's home.' Hallifax (2004), 29.
[12] Björnberg (2007), 382.
[13] Gabrielsson (2003) provides a summary of research into performance up to the millennium. José Bowen's bibliography of performance analysis covers the period until 2005. See also the AHRC Centre for the History and Analysis of Recorded Music (CHARM) publications list at http://www.charm.kcl.ac.uk/charm/studies/p6.html for more recent performance practice references.
[14] See Day (2000); Philip (1992, 2004) and the essays in Cook et al (2009, eds.).

repertories[15] or works[16] and discussions of style change in terms of cultural evolution.[17] Studies of twentieth-century music have been undertaken into recordings of composers playing or conducting their own works.[18] None of these exist for Webern, though, so we must piece together an understanding of the kind of performance style he wanted for his own works from recordings of him conducting other music and from written evidence.

Interest in Second Viennese School historical performance practice has grown substantially over the last 20 years and a number of important new sources have become available.[19] Several historical recordings relating to Webern, previously difficult to find, have also been commercially released or re-released. These include, in 1996, a recording of a live 1948 performance of Peter Stadlen playing Webern's Op. 27 Piano Variations in Darmstadt,[20] various 1940s and 1950s recordings of Schoenberg and Webern by Rudolf Kolisch and the Kolisch and Pro Arte Quartets in 2003[21] and, in 1991, a privately-made recording of a live 1936 performance of Webern conducting the Berg Violin Concerto.[22] These recordings are important sources for this study.

Writings, radio talks and interviews by performers who have played Webern's music – particularly the conductors Robert Craft[23] and Pierre Boulez[24] and the pianist Peter Stadlen[25] – are also very important sources. It was normal for Webern to be closely involved with performances of his works and to add extra markings to performers' scores to make particular points. Two of these 'performance scores' were

[15] For example Fabian's (2004) study of Bach performance practice and style, Leech-Wilkinson (2006a) on Schubert songs and Cook and Sapp's CHARM Mazurka Project on Chopin's mazurkas at http://mazurka.org.uk/ (results discussed in Cook, 2009).
[16] See Turner (2004) on Beethoven's Op. 131 quartet and Grunin (2001-ongoing) on Beethoven's *Eroica* Symphony.
[17] Leech-Wilkinson (2009a, 2009b, 2009c, 2010).
[18] See Philip (1984) on Elgar; Garst (1985) on Bartók's piano works; Fink (1999) on Stravinsky's *Le sacre du printemps*; Byron (2006) and Byron and Pasdzierny (2007) on Schoenberg's *Pierrot Lunaire* and Leech-Wilkinson (2009a) on Boulez's *Pli selon pli*.
[19] Grassl and Kapp (2002, eds.) include a bibliography of over 2000 sources on Second Viennese School performance practice (mostly in German). Interest in the English-speaking world is growing, marked by the 2006 publication of the English translation of Theodor W. Adorno's *Towards a Theory of Musical Reproduction*, published in German in 2001. A special 2009 edition of *MusikTheorie: Zeitschrift für Musikwissenschaft* includes essays on and previously unpublished writings by the violinist Rudolf Kolisch in both English and German. Shreffler and Trippett (2009, eds.).
[20] Col Legno WWE 31893 (the Webern recording is on WWE 31894).
[21] Music and Arts CD-1056.
[22] Continuum SBT 1004.
[23] Craft (1957a, 1957b, 1984, 1992, 1997, 2005, 2006, 2009).
[24] Boulez (1952, 1954, 1955, 1961, 1976, 1983, 1986, 1991, 1999, 2005).
[25] Stadlen (1958a, 1958b, 1959, 1961a, 1961b, 1972, 1979).

subsequently published: Stadlen's copy of the Op. 27 Piano Variations appeared in 1979[26] and Webern's piano-vocal reduction of the Op. 14 Trakl songs in 1999, incorporating markings made on a copy belonging to the soprano Clara Kwartin.[27] They are discussed in Chapters 2 and 5 (Op. 27) and 6 (Op. 14). Further, two professional performers specialising in contemporary music and with extensive experience of performing and recording Webern's works – the singer Tony Arnold and the cellist Neil Heyde – were interviewed and their comments incorporated into Chapters 2, 4 and 6. Edited transcripts of their interviews can be found on the attached DVD.

One of my central aims is to understand how recordings of Webern's music can be heard as meaningful and expressive.[28] The primary assumption behind studies of performance style through recordings, including this one, can be summed up in José Bowen's simple but powerful statement: 'There seems to be a connection between what you think [a] piece means and how you play it'.[29] This gives rise to the notion that performance styles and stylistic traditions are more important and more essential than has often been thought to be the case in the past: rather than merely affecting the 'surface' but leaving the essential meaning of the music unchanged, changes in style signal changes in what the music is considered to mean. According to this view, musical meaning is not fully inherent in the score but created in performance, emerging out of the complex interaction between composer, score, performer, recording, listener and context.[30]

I have made use of a substantial amount of research on musical meaning and expression, much of it psychological in orientation. Research in music perception and psychoacoustics has revealed much about the ways particular aspects of musical sound like pitch (and intonation), timing and vibrato are perceived by listeners.[31] Psychological research into musical expression has begun to provide a basis for understanding music as meaningful through its acoustic resemblance to other things. A

[26] Universal Edition 16845. Reactions to Stadlen's score can be found in Black (1983); Zenck (1983); Wason (1987) and Cook (1999). A further, unpublished Op. 27 performance score belonging to Webern's piano pupil Else Cross is analysed in Boynton (2002) but not discussed here.
[27] Universal Edition 30267.
[28] The various approaches taken to the question of music and meaning are summarised in Cross and Tolbert (2009).
[29] Bowen (1999), 450.
[30] See Cook (2001a, 2001b).
[31] A good summary of psychological research into music perception and performance is contained in Deutsch (1999, ed.).

number of attempts have been made to formulate rules for expressive performance.[32] Patrik Juslin's influential GERMS model, for example, proposes a multidimensional basis for performance expression.[33] According to Juslin, expressive fluctuations in musical performances arise from attempts to communicate musical structure using generative rules (G), to portray emotions (E) and to evoke motion principles (M). They also arise from random variations (R) and attempts to be stylistically different (S).

The GERMS model is supported by much recent research. A number of studies investigate emotional expression in performance,[34] and research into music and emotion[35] has made the connection between musical sounds and emotional vocalisations.[36] Fluctuations in timing and dynamic level (and to a lesser extent pitch and timbre) are typically perceived by listeners in terms of physical motion, often human bodily motion.[37] This has inspired a corpus of recent research on music and gesture.[38] The idea of musical meaning as 'embodied' – supported by some neuroscientific research[39] – has become popular recently and the notion that music may be understood in terms of spatio-kinetic 'image schemas'[40] and 'conceptual metaphors'[41] has filtered into some music theory,[42] following in the wake of George Lakoff and Mark Johnson's work on metaphor.[43] The idea of 'cross-domain mapping' – that an event in one perceptual domain (in this case the auditory) is understood in terms

[32] For example Sundberg, Friberg and Frydén (1989, 1991) and Friberg (1991).
[33] Juslin (2003).
[34] For example Gabrielsson and Juslin (1996); Leech-Wilkinson (2006a) and Timmers (2007).
[35] The essays in Juslin and Sloboda (2001, eds.) represent many of the main research areas.
[36] Scherer (1995); Cox (2001). Cox's notion of 'subvocalisation' conceives musical listening as an empathic process of silently 'singing along'. Juslin and Laukka (2003) summarise 104 studies of vocal expression and 41 studies of music performance and confirm many similarities between the acoustic cues used to communicate specific emotions though both channels.
[37] Shove and Repp (1995), Friberg and Sundberg (1999), Clarke (2001), Honing (2003), Eitan and Granot (2006).
[38] Both in terms of the actual physical gestures made by performers and the gestural shapes perceived by listeners, which are not necessarily the same thing. Leech-Wilkinson (2006a) discusses recordings in terms of expressive gesture. The essays in Gritten and King (2006, eds.) discuss gesture from multiple perspectives. Mead (1999) discusses the second movement of Webern's Op. 27 Piano Variations in gestural terms, introducing the important concept of 'kinaesthetic empathy' – the idea that the listener identifies with the effortful movements of the performer.
[39] For example, Gallese and Lakoff (2005) showed that the motor parts of the brain are actively involved in conceptual thought even when a person is thinking about supposedly 'abstract' concepts. The discovery of 'mirror neurons' may also provide a neurological basis for understanding the empathic and imitative aspects of music. See Ramachandran (2000).
[40] Saslaw (1996).
[41] Brower (2000).
[42] Zbikowski (2005).
[43] Lakoff and Johnson (1980, 1999).

of another (the tactile or kinaesthetic, or visual)[44] – is central to this notion of metaphor, although the extent to which the mapping is actually a metaphorical process has been questioned by Eric Clarke, who believes, instead, that it is a 'truly perceptual' one.[45] For Clarke, the sounds of music 'specify' patterns of motion in a 'virtual world' that 'both abides by, and stretches or defies, the normal laws of physics'.[46] Indeed, the idea of music as inhabiting a kind of 'virtual space' is particularly relevant to recordings, which lack the visual component of a live performance and instead afford the mode of listening focused largely or solely on sonic qualities that Pierre Schaeffer called 'acousmatic'.[47]

These interdisciplinary perspectives on musical meaning form the background to this investigation. In Chapter 3, I discuss the audible changes in the sound of Webern recordings in broadly music-perceptual terms. In Chapter 4, I discuss how intonation may be heard expressively and suggest that the cross-modal interactions between intonation and motion and, especially, colour may be relevant. The background for Chapter 5 (and for section 1.4 in Chapter 1, analysing Webern's recordings) is the large body of work on expressive timing in musical performance. The bulk of this has been on piano performance and has attempted to relate timing fluctuations to musical structure (the 'G' of Juslin's GERMS model).[48] Neil Todd made the influential observation that timing fluctuations in common-practice piano music can often be related to hierarchical phrase structure, forming overlaid arch shapes at various structural levels when represented on a timing graph.[49] This 'phrase arching' involves accelerating towards the middle of phrases and decelerating towards the ends ('phrase-final lengthening' in Todd's terminology) in a manner similar to the motion of a pendulum. Todd subsequently noticed that the same ebb and flow patterns could also be seen in pianists' dynamics: they would typically speed up and get louder towards the middle of the phrase and slow down and get quieter towards the end.[50] In Chapter 6, I

[44] See Zbikowski (1997) and Vines et al (2006). Wapnick and Freeman (1980), for example, found a perceptual association between intonation and visual brightness.
[45] Clarke (2005), 74.
[46] Clarke (2005), 70.
[47] Schaeffer (1966).
[48] Including studies by Shaffer (1981), Cook (1987) and Repp (1992 and many more).
[49] Todd (1985, 1989, 1992).
[50] Todd (1995). Recently, however, Nicholas Cook's analysis of 56 recordings of a Chopin Mazurka has suggested that timing and dynamic phrase arching is not a universal technique but a stylistic trait used mainly in the second half of the twentieth century and particularly by Russian pianists. Cook (2009).

use studies of portamento[51] to explore how pitch slides can be meaningful in particular musical contexts. I take an embodied approach, tracing the similarities between portamenti, movement and emotional vocalisations and showing how particular musical meanings emerge from basic responses to sound, filtered and transfigured by cultural knowledge and moderated by context.

Many studies of musical performance style, including this one, adopt an at least partly empirical approach, using numeric data gathered from recordings – either aurally or using computer software – to investigate particular aspects of performance like timing or vibrato. Here, I make use of data on pitch, timing, duration, intonation and, in one case, timbre gathered directly from Webern recordings. The advantages and potential disadvantages of an empirical approach warrant further discussion.[52] To play devil's advocate, it could be argued that using data to study performance style is simply a technologically flashy and time-consuming way of reaching conclusions that one could reach quite easily using one's ears alone. It is true that performance data often support 'common sense' aural conclusions, but important that they sometimes challenge it, allowing one to contest what Nicholas Cook calls the 'sweeping claims' often made about performance style.[53] For example, it was not until José Bowen's empirical work on tempo fluctuations in orchestral repertoire that the generally accepted idea that Arturo Toscanini was the 'father of modern conducting' in his use of strict tempi could be questioned. Instead, the data showed that Herbert von Karajan was the first conductor to use relatively even tempi throughout a movement.[54] The fact that empirical results can contradict one's intuitions then illuminates the fact that perception is not a neutral act. For example, agogic and dynamic accents in performances can be easily confused by listeners, but accurate data of timing and loudness can disentangle them. The question then becomes: how is it that they could have been perceived as performing the same function?[55]

[51] Katz (2006); Leech-Wilkinson (2006b); Potter (2006).
[52] Many of the points in the following discussion were taken from Cook and Clarke (2004); Clarke (2004); Clarke (2010 keynote) and Cook (forthcoming).
[53] Cook (forthcoming).
[54] Bowen (1996), 132. This point is also made by Fabian (2008), 246-47.
[55] The way in which timing and dynamic changes may both be perceived by listeners as changes in intensity offers one possible approach to answering this question. Indeed, Eitan and Granot (2007) propose that intensity may be understood as a cross-modal musical parameter perceived holistically.

Empirical analyses of recordings can also allow one to make specific claims about music based on something other than written notation – and even to test falsifiable hypotheses. However, there is a danger in this of 'reifying'[56] performance – treating it as a thing rather than a process, event, or method of communication – and so simply replacing one kind of textualism (based around the score) for another (based around the recording). This danger is especially acute when one makes visual reductions of recording data such as tempo graphs. The dangers of reductionism and reification can, however, be largely avoided by treating the data sensitively and by supplementing empirical approaches with aural, critical and ethnographic ones. It might be objected that separating performance parameters – timing, dynamics, pitch and so forth – in order to collect data on them is necessarily 'false' vis à vis the actual act of performing or listening, in which these things are experienced simultaneously, but at the moment it remains necessary for practical reasons. Separating parameters also allows us to see exactly how those parameters work together and interact. Again, then, it could be replied that this kind of deconstruction can illuminate the bases upon which musical judgements are made far better than can taking the sound of music at face value.

Data on recordings can be analysed in a number of ways, from a rigorously statistical and 'bottom up' approach to a loose approach that uses the data to supplement, inform, nuance or challenge 'top down' musical interpretations. One of my aims is to explore a range of empirical methodologies and to evaluate the suitability of different types of analytical method for different purposes. The types of analyses range from the very basic (the portamento study in Chapter 6), to the slightly more complex (the average tempo analysis in Chapter 3), to the statistical and abstract (the timing and intonation analyses in Chapters 4 and 5). The portamento data was gathered aurally with no use of computers, the duration data using the simple audio editing program Audacity[57] and the timing data in Chapters 1 and 5 using the spectrographic program Sonic Visualiser.[58] The intonation study in Chapter 4 required the development of a novel data-gathering method using the audio analysis program SPEAR.[59] The three case studies start very narrowly and closely focused and become progressively wider and less detailed in scope, moving from a single four-bar passage (Chapter 4), to an 18-bar section (Chapter 5), to an entire six-song cycle (Chapter 6). Each adopt a different

[56] This word is used by Clarke (2004), 98.
[57] Freely downloadable from http://audacity.sourceforge.net/.
[58] Freely downloadable from http://www.sonicvisualiser.org/.
[59] Freely downloadable from http://www.klingbeil.com/spear/.

methodological approach: Chapter 4 is the most rigorously empirical and bottom up (although I do make interpretative comments about specific recordings as well); Chapter 6 the most interpretative and top-down, especially since it includes consideration of the song texts; Chapter 5 is somewhere in the middle. The works chosen as case studies also represent a reasonably representative cross-section of Webern's output: they encompass his early 'free' atonal period (Op. 5), the middle-period vocal works (Op. 14) and late serial instrumental works (Op. 27). Moreover, they are all written for different instrumental forces: one for string quartet, one for solo piano and one for soprano and mixed chamber ensemble.

I also attempt to comment on broad trends in performance style. Performance style is statistical and generalising in nature, having to do with groups, masses, and aggregates of details.[60] Of course, there remains a great deal of variation between interpretations by different musicians and ensembles and there are always exceptions to any rule or trend, but examining performances in terms of general traits or shared characteristics – what Bruno Repp called their 'commonalities'[61] – provides a valid way in to understanding performance as an overall cultural phenomenon. This is not to denigrate the creativity of performers, but to acknowledge that creative acts always take place within the context provided by others. To an extent, the type of analytical approach taken in the case study chapters was governed by the number of recordings available. Opp. 5 and 27 have been recorded extensively and I was able to collect 21 and 51 different recordings of these works respectively, making data-driven, generalising approaches a viable option. The relatively obscure Op. 14 songs, however, have been recorded very little and I could only access six recordings, making it impossible to talk of trends and instead requiring me to focus on their individualities.

Documents on reception are crucial sources for any history of performance style. I make use of many sources on how Webern's music has been received and understood,[62] including general life-and-works books,[63] biographical studies[64] and more

[60] The variety of performances, José Bowen argues, means that the musical work itself is a 'blurred concept'. Bowen (1993), 163-64.
[61] Repp (1992).
[62] Bailey (1995) gives a chronological summary of much of the English-language academic literature on Webern. A Webern bibliography is provided in Roman (1983), updated in Boynton (1996).
[63] Wildgans (1966) and especially Moldenhauer (1978).
[64] Bailey (1998).

recent musicological studies that combine both analytical and biographical perspectives, chiefly those by Anne Shreffler[65] and Julian Johnson.[66] In addition to these academic sources, I also refer continuously to record reviews and other journalistic sources, which are generally under-utilised in academic studies. Reviews often provide the best sources of evidence as to how the sounds of particular performances have been understood at different times and can be rich sources of stylistic information. Less bound by theory than academic studies, their language is generally more informal and more colourfully metaphorical, helping to illuminate the ways in which narratives of meaning are constructed linguistically around music in a very direct way.

Although Webern is probably one of the most analysed composers of the twentieth century, except in Chapter 5, I do not make use of the many serial or pitch-class analyses of Webern's music that exist,[67] mainly because, although often valuable on their own terms, they rarely seem directly relevant to an understanding of the music as performed and heard. Analyses that conceive of Webern's music in more traditional formal terms may be more relevant to performers and listeners,[68] although we should not automatically accept this. In this respect, I question what Rose Rosengard Subotnik referred to as 'structural listening' (which she blamed on Schoenberg and Adorno).[69] While many who have approached the question of the relationship between form and performance,[70] particularly in Webern's music,[71] have taken scores rather than recordings as their starting point and have adopted a rather prescriptive stance (one first analyses the score in order to understand and perform it 'correctly') I take recordings as my starting point and tend to agree instead with those who have argued that one does not necessarily have to – and indeed sometimes cannot – 'bring out' the results of structural analyses in performances.[72] This issue is discussed in more depth in Chapter 5.

[65] Shreffler (1992, 1994a, 1994b).
[66] Johnson (1997, 1998, 1999).
[67] Too many to list here, although the books by Perle (1991) and Forte (1973, 1998) are well known. Bailey (1995) lists many analytical articles.
[68] Such as Wintle (1982) and Bailey (1991).
[69] Subotnik (1988).
[70] For example Cone (1968, 1985) and Schmalfeldt (1985).
[71] Wintle (1982), Wason (1987).
[72] See Rothstein (1995) and Lester (1995). Rink (2002b) outlines the alternative concept of 'performer's analysis', which marries intuitive with systematic approaches and pays more attention to 'shape' than 'structure'.

The question of the relationship between the performer and the score is a recurring theme of Webern performance practice, which has been dominated until recently by textualist approaches that emphasise the authority of the score. The Schoenbergian approach to performance, emphasising score reading and analysis as prerequisites to 'correct' performance, has had a great influence on Webern, as I explore in Chapter 1. Post-war Webern performances tend instead to be influenced by a more Stravinskian notion of textualism, which, while just as theoretically fixated on scores, took a different stylistic approach and stressed 'execution' rather than 'interpretation'. Despite their textualist rhetoric, both approaches did require significant stylistic knowledge of performers: indeed, without some knowledge of style one cannot perform at all, since scores do not provide all the details needed for performance. The idea that one needs to operate within a set of stylistic conventions, such as those provided by a performance tradition, to communicate music to listeners is a theme that recurs throughout this study.

I take performance to be basically a communicative act, albeit a highly mediated one. However, the notion of communication is arguably quite problematic when applied to Webern. Although the composer laid great emphasis on the 'comprehensibility' [*Fasslichkeit*] of his music as a kind of aesthetic virtue,[73] it is still the case that most listeners actually find most of his atonal and serial music (or aspects of it, at least) very difficult to comprehend. Much of Webern's music is inherently complex, employing a high degree of abstraction and compositional systematisation, and his compositional style is, after Op. 1 at least, extremely concentrated and his works very short. Interpreting it is often not straightforward for either performers or listeners. On the other hand, his compact, densely gestural style makes his music very well suited to a detailed performance stylistic study. Their concentration means that even small nuances in performance can have a decisive effect and makes a great deal of variety of expression possible within a very short space of time. This study, therefore, raises questions regarding what it means to 'comprehend', 'understand', or 'make sense of' this kind of music, especially in terms of the theories of musical meaning outlined above.

[73] Webern (1960), 17.

Chapter 1

Webern as a performing artist

1.1. Introduction

Webern as a *performing* artist? The title strikes an odd first note. Webern is now far better known for his small but weighty corpus of compositions – just 31 opus-numbered works, totalling around three hours of music – than for the conducting engagements that brought him recognition (and a little notoriety) during his lifetime. Further, considering Webern as a performer and his music as rooted in a particular performance practice is at odds with the idea of his scores as primarily abstract entities, examples of rigorous intellectual order in music – an idea deconstructed by more recent scholars[74] but still commonly encountered. The bulk of academic research into Webern has been based around analyses of the scores, particularly their pitch structures: since his death in 1945, there have been dozens – if not hundreds – of books, articles and theses written on his use of twelve-note techniques or other methods of pitch-class ordering, especially in the late serial instrumental works for which he is principally remembered. For many post-war composers and musicologists, Webern was an icon who pointed the way forward to the future of music. In 1966, a former pupil Humphrey Searle described him as 'probably the most discussed composer of modern times'.[75]

Today, there is something of a conflict between Webern's continuing status as a canonic reference point in academic circles (albeit a slightly more minor one than before) and the relatively marginal presence of his works in concert and recording schedules. Some works, such as the Opp. 6 and 10 orchestral pieces and the Op. 27 Piano Variations, are popular with audiences and regularly performed and recorded, but others are surprisingly neglected.[76] *Das Augenlicht*, for example, has to date been commercially recorded only five times – and four of these were as a necessary part of 'complete Webern' boxed sets. Even among musicians, Webern is still widely considered 'difficult'. Among few Western composers, Julian Johnson writes, 'is there such disproportion between the degree of interest in talking about the music and that in actually performing it or listening to it'.[77]

[74] Principally Shreffler (1992, 1994a, 1994b) and Johnson (1997, 1998, 1999).
[75] Searle (1966), 7.
[76] The relative popularity of Webern's works, as reflected by the number of recordings, is discussed further in Chapter 3.
[77] Johnson (1997), 61.

During his lifetime, Webern was far better known as a conductor than a composer. A BBC internal minute of 1931 describes him as a conductor who would also be presenting 'a work of his own' in a contemporary programme later that year.[78] As we shall see, Webern had a rather successful conducting career before the Second World War, achieving real recognition as a performer, unlike Schoenberg and Berg. However, his performances of his own works made relatively little impression on the public and they were seldom performed by others. 'No performing tradition at all was established in the composer's own lifetime', writes Timothy Day. '[H]is own works were hardly ever performed, and when they were, were greeted with astonishment, incomprehension, and mild ridicule by performers as well as audiences. And then forgotten'.[79] As Herbert Eimert wrote in the periodical *Die Reihe*, which in 1955 dedicated a special issue to Webern on the tenth anniversary of his death:

> In thirty-five years of creative work, from 1908 to 1943, Webern wrote thirty-one works. None of them was a sensation, a landmark, a hit […]. None of them imprinted itself on the musical consciousness of the times, in either a good or a bad way.[80]

Eimert may be slightly overstating the case – Webern did achieve some notable successes, such as the 1938 London premiere of *Das Augenlicht*[81] – but he is broadly correct: Webern certainly produced no hits on the scale of, say, *Wozzeck*. Moreover, the ridicule provoked by his works was sometimes more than mild: at performances of the Op. 5 Five Pieces for String Quartet in Salzburg and the Op. 20 String Trio in Siena, the outraged audience erupted into rioting.[82] A few enthusiasts aside, the tone of criticism of Webern's music written during his lifetime ranges from broadly sympathetic to baffled, with many journalists expressing a mixture of muted admiration and confusion and others confessing to simply not understanding the music. After hearing a 1928 performance of the Op. 20 Trio by members of the Amar Quartet, Heinrich Strobel described it as 'A work of imposing aloofness […] It is the summit of esoteric subjectivism. We admire the spirit that advanced to this frontier of music, even if we are

[78] Edward Clark, BBC internal minute, 18 February 1931. Quoted in Foreman (1991c), 16.
[79] Day (2000), 181.
[80] Eimert (1959), 29 [1955 German edition, 35].
[81] At the Queen's Hall, London on 17 June 1938 as part of the ISCM Festival. Hermann Scherchen conducted the BBC Singers. Webern was not able to be present.
[82] See Moldenhauer (1978) 248-49 (Op. 5) and 323-24 (Op. 20).

not capable of following there.'[83] 'Perhaps these uncanny, otherworldly wisps of sound do mean something' pondered the *Musical Opinion* reviewer after hearing *Das Augenlicht* in London.[84]

It is also an overstatement to say that for Webern's works 'no performing tradition was established during the composer's lifetime' – but again only slightly. A Second Viennese School performance tradition did exist, but was very limited – mainly confined to a few practitioners in Vienna connected to the Schoenberg circle – and was dispersed and largely destroyed by the forced emigration of many musicians from central Europe during the 1930s. Uncovering the theory and practice of this performance tradition is the task of this chapter. The most important sources of evidence about this, for our purposes, are Webern's own recordings. Webern made very few recordings, which is undoubtedly among the reasons why he is not widely remembered as a conductor today, but even these give us a fascinating insight into his musical-stylistic world – one quite different from our own, and quite different to the stylistic world his music later came to inhabit. The creative impact of Schoenberg on Webern – as teacher, friend and lifelong mentor – was of course immense. Webern was not nearly as forthcoming on performance matters as Schoenberg, but we can see from the comments he did make how his views on performance were very much those of the Schoenberg School. By first exploring the Schoenberg School performance aesthetic, as propounded by figures like Kolisch and Adorno as well as Schoenberg himself, and relating it to the more general performance-stylistic norms of the pre-1945 period, we will then be in a position to understand Webern's conducting style as audible on record.

1.2. Webern's views on performance

1.2.1. Webern and the Schoenberg School performance aesthetic

The title of this chapter echoes that of a 1924 article by the violinist Rudolf Kolisch, 'Schönberg als nachschaffende Künstler', later translated into English as 'Schoenberg

[83] *Dresdner Anzeiger*, 30 May 1928. Quoted in translation in Moldenhauer, (1978), 323. The concert was given on 21 May 1928 during the Tonkünstlerfest of the Allgemeine Deutsche Musikverband in Schwerin.
[84] *Musical Opinion*, July 1938. Quoted in translation in Moldenhauer, 501-02.

as a performing artist'.[85] Kolisch (1896-1978), one of Schoenberg's most trusted pupils and interpreters, was leader of the Vienna Quartet – which became the Kolisch Quartet in 1927 – and from 1944 of the Pro Arte Quartet. The Kolisch Quartet worked closely with composers and premiered such works as Schoenberg's Third and Fourth Quartets, Berg's *Lyric Suite* and Webern's Op. 20 Trio and Op. 28 String Quartet. After the war and his emigration to the USA, Kolisch became an influential teacher and theorist who lectured widely on musical interpretation and even planned a book on performance practice with Theodor Adorno.[86] In 'Schoenberg as a performing artist', he acts as a spokesman for the composer's strong views on performance. These can be summarised in the statement: 'the performer must interpret the composer's ideas correctly in order to represent them clearly'. Kolisch's article contains many dualistic undercurrents expressed both as explicit verbal dichotomies ('it is not *x* but *y*') and as implicit concepts (mind versus emotion, internal form versus external appearance, the objectivity of the work versus the subjectivity of the performer). The most important dualistic relationship in Kolisch's article is that between work and performance, but it is an imbalanced one: the work (and so the composer) has authority over the performance (and the performer).

In practice, the Second Viennese School composers attempted to maintain this unequal relationship in two ways: by emphasising the textual authority of scores and by working directly with performers during rehearsals. In his 1924 article, Kolisch writes that 'For Schoenberg all instructions are contained in the notes themselves – one only has to be able to read them properly'.[87] Over fifty years later, when asked how to learn the Beethoven Quartets, he replied: 'Don't listen to performances! That is not the right way, at least not for a musician, to get in touch with music. The right way is to read the text.'[88] Such score-centricity was underpinned by a belief in musical meaning as pre-given, pre-existing objectively in the written notation: as Kolisch wrote, 'Every phrase performs [its proper] function in the work itself *a priori* of physical performance and in this sense Schoenberg's representation is objective throughout'.[89] The performer's role

[85] Kolisch (1995). Similarly, Johann Humpelstetter's article is entitled 'Anton Webern als nachschaffender Künstler'. Humpelstetter (1983).
[86] This was never completed, but Adorno's notes for it were later published. Adorno (2006). Numerous other articles and lectures on performance by Kolisch survive. See Shreffler and Trippett (2009, eds.).
[87] Kolisch (1995), 35.
[88] Lecture of April 6, 1977 at Dartmouth College, recorded by Douglas Whipple and Berthold Türcke. Quoted in Satz (2002), 207.
[89] Kolisch (1995), 34.

is merely to comprehend and communicate this objective meaning to an audience: he or she is a conduit, not a creator. Second Viennese School scores are typically highly detailed and specific, giving them an aura of authority. This is particularly so with early Webern: in the concentrated expressionist miniatures such as the Opp. 7 and 11 pieces for violin or cello and piano, almost every note carries an expression or dynamic marking.[90]

Given their professed belief that 'all instructions are contained in the notes themselves', it might then seem odd that Schoenberg, Berg and Webern felt it necessary to provide so much additional advice to players during rehearsals. Here one might suspect them of a certain anxiety surrounding performance, resulting perhaps from a realisation – a result of experience – that their music was rather difficult for contemporary performers to understand. To foster a culture of 'correct' performance through intense tutoring of carefully chosen expert performers, Schoenberg founded the Society for Private Musical Performances [Verein für musikalische Privataufführungen] in 1918, which was active until 1921. Later, Schoenberg, Berg and Webern's close involvement with the Austrian section of the International Society for Contemporary Music (ISCM), founded in 1926, achieved many of the same aims.[91] In this way, they formed close working relationships, teacher-pupil relationships and personal friendships with many performers active in Vienna between the wars. Along with Kolisch and the members of his various quartets (notably the viola player Eugene Lehner), these included the pianists Eduard Steuermann and Peter Stadlen, the violinists Louis Krasner and Felix Galimir, the singers Josef Hueber, Ruzena Herlinger and Felicie Hüni-Mihacsek and the conductors Hermann Scherchen, Heinrich Jalowetz, Kurt Manschinger and Erwin Stein.

Numerous rehearsals were common (often more than 10 per work) and coaching sessions could be lengthy and involved. According to Hans Moldenhauer, Webern's sessions with the wealthy soprano Ruzena Herlinger, in preparation for a London recital including just two of the Op. 3 songs, lasted from June until October 1928. This

[90] Adorno recalled that he and Berg 'once concocted a Webern parody, consisting of a single quarter-note rest under a quintuplet bracket and garnished with every conceivable symbol and performance notation, which, to top it off, was then to fade away.' Adorno (1991), 27.
[91] In German, IGNM (Internationale Gesellschaft für Neue Musik). Webern was president from 1934-38. The society was re-established on 20 April 1945 and Webern briefly reinstated as president before his death in September that year. See Szmolyn (1982).

included spending an entire week with her (at her expense) while she was on holiday.[92] During these sessions, Webern would often add extra markings to performers' scores to illustrate particular points, giving us the Opp. 14 and 27 'performance scores' mentioned in the Introduction. When Webern was unable to attend rehearsals he would issue meticulously detailed instructions to players. In a 1938 letter to Hermann Scherchen, written before the conductor was due to perform his 1935 orchestration of the Ricercar from Bach's *Musical Offering* in London with the BBC Orchestra, Webern's explanation of the precise character of the rubato in the fugue subject spans several hundred words. The letter's conclusion reveals his characteristic intensity and keenness to communicate the significance of every tiny detail: 'Nothing must be allowed to take second place. Not even the softest notes of the muted trumpet must be allowed to be lost. Everything is of primary importance in this work – in this orchestration'.[93] Indeed, Webern's anxiety that his works be interpreted 'correctly' could be particularly intense, leading him to categorically forbid performances he thought would not be entirely successful. A 1929 letter to Edward Clark rejects his proposal for a performance of the Op. 13 songs in uncompromising terms:

> With three rehearsals, I would have had for these songs alone *much* too little [time…]. And, dear friend, (I speak from the most far-reaching experience) if such a work cannot be completely successful (or approximately so), then it is better to leave it. No, nothing is more harmful for our music than such half successful performances.[94]

Similarly, in 1933 Webern wrote to Clark refusing to conduct the second movement (Allegro misterioso) of the string orchestra arrangement of Berg's *Lyric Suite*:

> Whoever performs that today, *cheats* deliberately. And that cannot be expected of me!!! It is impossible for it to be *really* brought about with orchestra. Up to now, it could only *really* be played by the Kolisch people. Everything else is and can only *be nonsense*!!![95]

His absolutist bent and need to communicate his artistic intentions beyond any ambiguity sometimes verged on the neurotic. 'I hope I have made myself understood', Webern writes to Scherchen. The consequences of being misunderstood were known well enough to him: his bitter remark to Stadlen after a performance of the Symphony,

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[92] Moldenhauer (1978), 301.
[93] Letter of 1 Jan 1938. Quoted in Eimert and Stockhausen (1959, eds), 19. [1955 German edition, 26.]
[94] Webern (1929). Quoted in Doctor (1999), 170-71.
[95] Webern (1933). Quoted in Doctor (1999), 257. Emphasis and punctuation original. The concert was due to take place on 21 April 1933.

Op. 21, conducted by Otto Klemperer ('A high note, a low note, a note in the middle – like the music of a madman!') shows that he was deeply hurt by performances he thought had missed the point.[96]

Webern's wholehearted subscription to what Anne Shreffler calls the Schoenberg School's 'cult of rehearsal'[97] probably limited the number of performances of his works that took place in his lifetime and indicated a rather obsessive need for control over performances among Schoenberg and his followers. Partly this arose out of a legitimate fear of being grossly misrepresented – their works were indeed difficult to perform – but it also related to their professed belief that there was actually only one possible 'correct' interpretation. This in turn relates to a concept central to Schoenberg School writings on performance – that of a fixed, unchanging musical 'idea'. Webern described this in a 1933 lecture as 'the presentation of an idea by means of notes'.[98] The realisation followed the idea, which was considered to arise out of the music's formal interrelationships. Analysis of these interrelationships was therefore a necessary part of learning the work, so that the performer could, in Kolisch's words, produce a performance that was 'analysis made manifest'.[99] Indeed, the Kolisch Quartet would analyse new works before even picking up their instruments, learning from scores rather than separate parts (so that each player could see the relationships between all instruments at once) and, in the final performance, playing from memory so that the musical ideas could be fully internalised and reproduced without the intermediary of notation.

Webern, too, appears to have believed that analysis was necessary training for composers and, to an extent, preparation for performers. Josef Polnauer claimed that when preparing for conducting appearances, 'Webern always took endless pains […]: his minute study of the text and structure of each individual work cost him much time.'[100] Humphrey Searle said that their lessons were based around the detailed study of the structure of works, beginning with an exhaustive investigation of Schoenberg's *Theory of Harmony*[101] that took several months.[102] Webern was very well-versed in

[96] Stadlen (1958a), 12.
[97] Shreffler (1994b), 238.
[98] Webern (1960), 17. Lecture of 7 March 1933.
[99] Kolisch (1995), 35.
[100] Polnauer (1967, ed.), 72, n. 6.3.
[101] Schoenberg (1978).
[102] Searle (1961).

music theory: apart from his lessons with Schoenberg, he had studied musicology with Guido Adler and in 1906 was made a doctor of the University of Vienna, with a dissertation on the *Choralis Constantinus* of Heinrich Isaac. However, he was curiously unwilling to discuss his own works in analytical terms. Arnold Elston, a pupil, said in his memoirs that Webern was 'most reluctant to discuss the constructive aspects of his music'.[103] Peter Stadlen revealed that, when teaching him the Op. 27 Variations, Webern refused to talk about the work's twelve-note structure, saying he needed only to know 'how the piece ought to be played, not how it is made'.[104] Perhaps this reluctance arose from the fact that there was simply no need for him to analyse his own works. However, it is interesting that he refused to pass on this knowledge to his pupils. It is possible that he wanted to preserve artistic privacy, although on other occasions he was very forthcoming in providing analytical details about his music, producing a written analysis of his Op. 28 String Quartet in 1939.[105] Rather, Stadlen's comment suggests Webern may have considered some analytical perspectives – such as knowledge of a work's underlying rows and their transformations – to be irrelevant to performers. This betrays a somewhat dualistic conception of the relationship between musical structure and performance that is at odds with the official line that the performer simply communicates the structural ideas in the score. Indeed, the issue of whether some kinds of structural ideas such as twelve-note rows can be meaningfully communicated in performance at all is open to question. This will be explored further in Chapter 5.

In fact, the Schoenberg School conception of the musical idea appears to have been principally centred not around twelve-note rows but around traditional aspects of formal structure – motifs, themes, phrases and sections – which had to be communicated clearly by the performer. Webern placed great emphasis on comprehensibility:

> If I want to communicate something, then I immediately find it necessary to make myself *intelligible*. But how do I make myself intelligible? By expressing myself as *clearly* as possible. […] The highest principle in all presentation of an idea is the law of comprehensibility.[106]

In the same lecture, he said comprehensibility could be ensured through clear, hierarchical 'differentiation, that's to say the distinction between main and subsidiary

[103] Quoted in Moldenhauer, 508. (Memoirs written especially for Moldenhauer biography.)
[104] Stadlen (1979). See also Stadlen (1958a), 16.
[105] Webern (1978).
[106] Webern (1960, 17. Emphasis original.

points' within an overall framework of organic 'unity, "hanging-together" [zusammenhängen]'.[107] The Schoenberg School were fond of organic metaphors. 'Through the manner of its representation in performance, every phrase is adapted to its proper function in the organism of the musical work of art', wrote Kolisch in 1924.[108] In a 1932 lecture, Webern compared musical works to 'Goethe's primeval plant; the root is no different from the stalk, the stalk no different from the leaf, and the leaf no different from the flower: variations of the same idea.'[109] In a phrase that obviously resonates with Heinrich Schenker's notion of 'Tonwille' [the will of notes], the violinist Louis Krasner said that Webern believed 'every note has its own life'.[110]

The desire to communicate overall unity manifested itself in Webern's conducting style, which, according to contemporary accounts, was strongly focused on conveying horizontal lines. Eduard Steuermann recalled that Webern conducted Bach with 'a sense of the great line',[111] while Felix Galimir remarked: 'It is amazing how a man concerned with the smallest details never lost the big line of a work.'[112] The concerns of Webern the performer seem to have overlapped with those of Webern the composer. Christopher Wintle writes that an 'implicit Beethovenian performance practice' has left its mark on a late serial composition like the Concerto, Op. 24, despite its resolutely non-tonal pitch structure, the wide tessitura and deceptive short-windedness of the phrases and the numerous – potentially misleading – rests in the score.[113] The bare, fragmented appearance of a late score like the Concerto, or the Symphony, Op. 21, might lead one to believe that the isolated notes and tiny phrases have nothing to do with one another when in fact they were conceived as intricately connected in webs of lyrical counterpoint. All the evidence suggests that Webern wanted them to be performed in a way that emphasises their linear connections. As Galimir recalled:

> We studied with Webern his Five Movements, Six Bagatelles, Four Pieces for Violin, the Concerto, and his Symphony. I remember at first our shock, a reaction almost prompting us to ridicule the sparsity of notes in each composition. After we worked with him for a little while, though, the proportions were so perfect that all length or shortness vanished. Of course, the

[107] Webern (1960), 18.
[108] Kolisch (1995), 34.
[109] Webern (1960), 53. Lecture of 19 February 1932.
[110] Krasner (1991), 7.
[111] Steuermann in Schuller (1964), 28.
[112] Letter to Moldenhauer. Quoted in Moldenhauer (1978), 462.
[113] Wintle (1982), 76.

> minutest details were of greatest importance. How expressive every little miniature phrase became when he sang it.[114]

Webern's performance style and aesthetic drew heavily on the nineteenth-century notion of musical expression – Stadlen describes his 'fervently lyrical mind bent on expressiveness'[115] – as did that of the Schoenberg School in general: the pianist Leonard Stein, a pupil of Schoenberg, described him as an 'espressivo composer'.[116] Kolisch's concept of the 'Wiener espressivo' referred to a particularly Viennese manner of using rubato and dynamics in order to expressively shape musical phrases into 'gestures'.[117] According to Lowell Creitz, who joined the Pro Arte Quartet as cellist in 1955, their rehearsals were based around the idea that: 'The goal at all levels of structure [was] to discover the *gesture* of the motif, the theme, the section and the movement.'[118] Structural and expressive aspects of the music appear to be identical; however, expressive gestures remained technically subservient since their ultimate function was to communicate the structure to the listener. In a passage from 'Schoenberg als nachschaffende Künstler' particularly rich in binary formulations, Kolisch maintains that:

> Schoenberg's manner of performing [reproduzieren] […] is guided by the *mind* and not by *sentimentality*; it is full of *ideas* and not of *feelings* […] For Schoenberg, it is not a mood that ought to be brought to expression, but rather a musical idea. It is not the feeling of the performer [Aufführender] that ought to be shown, but rather a theme, which perhaps contains this feeling.'[119]

An implicit warning to performers lurks within this passage: do not express yourselves on your own subjective terms, but only to serve the objective musical idea. Thus, performers were to exercise a degree of restraint to prevent their own feelings intruding, for example by reining in 'expressive' intonation: Kolisch, Schoenberg and Adorno all insisted on the importance of equal-tempered tuning on instruments of unfixed pitch, so that pitches be communicated clearly and unambiguously. Again, the performer is subordinate to the work and its composer.

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[114] Letter to Moldenhauer. Quoted in Moldenhauer (1978), 462.
[115] Stadlen (1979).
[116] Stein (2002), 69.
[117] See Zenck (1983).
[118] Creitz (2002), 166. My emphasis.
[119] Kolisch (1995), 34. Emphasis original.

Webern, therefore, largely subscribed to the idea that the performer had to interpret the composer's ideas correctly in order to represent them clearly. He also shared the Schoenberg School's formalist conception of the musical idea as contained in the linear, quasi-organic unfolding of musical structure. Like Schoenberg, Webern had strong opinions on performance and could be quite dogmatic about asserting them. K. H. Lehrigstein, a junior teacher at the Israelitic Institute for the Blind, a school in Vienna where Webern also taught from 1925, reports that 'Once, when his colleagues were discussing a performance of a Bruckner symphony under Bruno Walter, one of the teachers expressed disapproval of the interpretation, whereupon Webern retorted: "There is, strictly speaking, no such thing as how one should conduct Bruckner. There is really only a right way or a wrong way."' Lehrigstein then comments: 'This was characteristic of Webern. He felt so sure that there always was, at least in music, just one way of doing things. He could not make concessions of any kind and he felt quite certain that only the Schoenberg school knew the right way of understanding, performing, and, perhaps, even composing music.'[120]

In practice, however, Webern appears to have been more flexible and willing to make concessions than Lehrigstein's comment would imply, which provides us with a clue that his views on performance were actually more complex than the one-way work-to-performance model mapped out above. For example, he often changed his scores in response to hearing works performed. Felix Meyer and Anne Shreffler compare various versions of the score to show how in the Four Pieces for Violin and Piano, Op. 7, one of the few works with a continuous performance history '[r]epeated encounters with the actual sounding work and an acute awareness of its performance problems led Webern to revise the work and refine his performance indications continuously'.[121] Numerous revisions were usual for Webern, a terrible perfectionist: Shreffler notes that, after signing to Universal Edition in 1920, he revised virtually every piece composed before 1921 to at least some degree in preparation for their publication.[122] The revisions could be quite extensive and would often involve stripping out much of the notational detail, which may account for the relatively bare appearance of some of the later scores in comparison with the highly detailed early scores. Stadlen refers to the 'perplexing sparsity of expression marks in his late instrumental works' – 'perplexing' because

[120] Quoted in Moldenhauer, 289. (Original source unclear.)
[121] Meyer and Shreffler (1996), 151.
[122] Shreffler (1994b), 57.

expressionless performances were so far from what Webern wanted.[123] The consequences of this were significant: as we will see in Chapter 5, the lack of expression marks in the original published version of Op. 27 probably had a decisive influence over that work's subsequent performance history. It is interesting to ask why Webern removed so much detail: perhaps, working with experts like Kolisch, he became accustomed to assuming a large amount of stylistic knowledge of the performer so thought it unnecessary to notate every expressive nuance. (This would of course amount to handing some creative control to the performer, contrary to the official line.) Alternatively, perhaps, it may have been an aesthetic decision: he may have come to prefer scores with a 'cleaner' visual appearance. The third, related, possibility is that he was being deliberately enigmatic. This relates to Elston and Stadlen's observations above that Webern may have had a rather dualistic conception of the relationship between musical structure and performance. Indeed, Stadlen speculates that Webern may have understood the relationship between notational appearance and performance as a 'dialectic' and may have deliberately withheld information from the performer.[124] This suggests that at a certain point he came to see written notation as insufficient to capture his musical ideas, so rather than continuing to attempt to express them through ever more exhaustive, ever more specific notation, instead resigned himself to their fundamentally enigmatic, inexpressible character. The musical idea then becomes paradoxically something almost unattainable, something that cannot be 'unriddled'.[125]

This kind of mystical idealism was very characteristic of Webern's personality[126] and produces problematic effects in his scores: certain markings are simply not performable as such and cannot be interpreted literally (at least, in the normal relatively direct way), as will be explored in Chapter 3. Others, such as the vocal leaps discussed in Chapter 6, can only be performed with great difficulty and probably do not always produce the effect Webern intended. This is a trait he shares with Berg and Schoenberg: as Herbert von Karajan noted, '[o]ne of the characteristics of the Vienna School […] is that they make demands which can only very seldom be

[123] Stadlen (1979).
[124] Ibid.
[125] The mystical idea of the work as a 'riddle' [Rätsel] recurs often in Adorno's writing on Webern as well as in Schnebel (1984).
[126] Writing to his friend Ludwig Zenk in 1930, after Zenk and his wife had just lost their first child at birth, Webern said: 'Be consoled. In everything that happens there lies hidden the deepest meaning, which we cannot unriddle, which we are not to know, but in which we must believe and to which *we can cling! I have already experienced this.*' Quoted in Moldenhauer (1978), 355. (Original source unclear.) Emphasis original.

fulfilled'.[127] One suspects that Webern may have agreed with Adorno's opinion that the 'perfect' performance exists in a kind of impossible space:

> Every interpretation is fundamentally confronted with *insoluble* problems. There is an absolutely correct interpretation, or at least a limited selection of correct interpretations, but it is an *idea*: it cannot even be recognized in its pure state, let alone realized. […] An infinite number of paths lead into a work of art, but there is only one centre.[128]

The notoriously overlong timings on most of his scores also suggest a disjunction between his compositional imagination and practical reality. For example, the total duration of the Cantata No. 1, Op. 29, is given as 'ca 20 min', while most recordings are in the region of 7-8 minutes long. *Das Augenlicht* is given as 'ca 10 min', while recordings last around 5-6 minutes. In a letter to Schoenberg, Webern gives the timing of the Symphony, Op. 21, as 'about 20 minutes of music', but under most conductors it lasts about 10 minutes.[129] It is not that the recordings are too fast. In fact, performances can follow Webern's given metronome marks and still be far shorter than the given duration because the metronome marks and the durations themselves are inconsistent.[130] The most likely explanation seems to be that the metronome marks and durations were marked on at different times and Webern made no attempt to match them. Indeed, they may reflect different conceptions of the music: the metronome marks performance-orientated and practical, the total durations idealised and exaggerated. The sheer simplicity of the bad mathematics – Moldenhauer notes that in Webern's own copy of the published score of the Op. 14 Trakl songs the timings for the six individual songs fell three minutes short of the total duration[131] – is unexpected from someone who was normally so exacting and suggests that an overwhelming tendency towards holistic thinking may be behind the discrepancies. It is as though his idealised conception of his works meant he thought they were much 'bigger' than they actually were. For Webern, the whole was apparently so much more than the sum of its parts.

The Schoenberg School philosophy of musical performance was then strongly idealistic and dualistic: the performer's role was to communicate pre-existing musical ideas, believed to exist objectively in the work, to the audience. Performance had to be

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[127] Karajan (1975).
[128] Adorno (2006), 92.
[129] Letter of 5 September 1928. Quoted in Moldenhauer (1978), 326. (Original source unclear.)
[130] This is the case in the second movement of the Op. 21 Symphony, discussed in the next chapter.
[131] Moldenhauer (1978), 269.

outwardly expressive (that is, obviously gestural and emotionally evocative) to make sense, but the performers were not permitted any actual creative input themselves. This seems to describe a one-way process whereby theory is translated directly into practice, but such great emphasis is placed on the idea that the reality can hardly live up to it. An uneasy tension emerges between them, hinted at in Webern's case by his continual revision of scores in response to performances, his refusal to discuss certain constructive aspects of his music with pupils and by the gradual and enigmatic reduction of notational detail across his oeuvre.

1.2.2. Pre-war performance styles and the Schoenberg School

Classical performance styles in the early twentieth century, before the Second World War, were very different from those of today. In general, vibrato was used less, portamento was used more and players adopted a far more flexible approach towards rhythm and ensemble. This flexibility included, as Timothy Day writes:

> [T]he use of substantial tempo changes to signal changes of mood or tension, and the adoption of fast maximum tempos; varieties of tempo rubato which included not only detailed flexibility of tempo, but also accentuation by lengthening and shortening individual notes, and the dislocation of melody and accompaniment; and a tendency, in patterns of long and short notes, to shorten the short notes, and to overdot dotted rhythms.[132]

Contrasts in tempo were often used to underline expressive contrasts: as Robert Philip writes, 'Lyrical and reflective passages would be played more slowly and energetic passages more quickly.'[133] These stylistic traits are audible in pre-war recordings and often strike listeners today as exaggerated, sometimes even comically so. Of course, whether one considers something an exaggeration is entirely dependent on the norms to which one is accustomed. Classical performance norms have changed significantly since the early twentieth century, generally evolving away from freedom and expressive intensity in performance (an approach that has variously been termed 'vitalist'[134] or 'rhetorical'[135]) in the direction of greater accuracy, expressive restraint and overall

[132] Day (2000), 149-50.
[133] Philip (1992), 16.
[134] Richard Taruskin adopts the term 'vitalist' from T. E. Hulme to describe this style. Taruskin (1995), 109.
[135] Robert Philip comments that 'the volatility and detailed emphasis of the style does suggest analogies with the stresses of speech'. Philip (1992), 69.

consistency. Robert Philip summarises the main stylistic trends in the twentieth century as follows:

> The most basic trend of all was a process of tidying up performance: ensemble became more tightly disciplined; pianists played chords more strictly together, and abandoned the old practice of dislocating melody from accompaniment; the interpretation of note-values became more literal, and the nature of rubato changed, becoming more regular and even. Acceleration of tempo was more tightly controlled, and the tempo range within a movement tended to narrow; the use of portamento became more discreet and more selective; bowing styles became more powerful and assertive; vibrato became more prominent and more continuous, both on strings and on most woodwind (and there was a broadly similar trend among singers); different schools and national styles became less distinct.[136]

The emergence of continuous vibrato in string playing,[137] the replacement of volatile local rubato with the more stable and predictable patterns of large-scale phrase arching[138] and the sudden near-disappearance of portamento in classical performance[139] – previously an expressive staple for string players and singers – are all part of this broad trend.

The most extreme changes happened between the 1930s and the 1950s and we can hear a clear difference between 'pre-war' and 'post-war' styles. The beginnings of the more 'objective' approach to performance that later became the norm can be traced back to the 1920s and 1930s. This newer style emerged alongside the compositional neoclassicism of Hindemith, Milhaud and Poulenc and the aesthetic stance known as 'neue Sachlichkeit' [new objectivity]. Its proponents – best known among them Toscanini and Stravinsky – claimed that it represented an 'objective' approach to the score, excluding the 'subjectivity' of the performer. According to Stravinsky in 1936, music was to be 'transmitted and not interpreted […] an executant's talent lies precisely in his faculty for seeing what is actually in the score, and certainly not in a determination to find there what he would like to find'.[140] He famously claimed that music was 'by its very nature, essentially powerless to *express* anything at all'.[141] To an

[136] Philip (2004), 232.
[137] See Philip (1992), 95-139. While vibrato had been used more sparingly in the late nineteenth and early twentieth centuries to highlight particularly expressive moments, constant vibrato standardised and neutralised this expressivity by generalising it across all musical situations.
[138] See Cook (2009).
[139] Philip (1992, 2004); Katz (2006); Leech-Wilkinson (2006); Potter (2006).
[140] Stravinsky (1998), 75.
[141] Ibid., 53.

extent, this was empty rhetoric, since Stravinsky's own recordings often departed from his own notated tempi[142] and Robert Fink demonstrates how, like Webern's, Stravinsky's compositional intentions changed in response to performances: some of his score revisions for the *Rite of Spring* were based on conducting marks by Pierre Monteux.[143] Moreover, it has been pointed out many times that one cannot simply 'represent' a score without making any interpretative decisions whatsoever because notation does not – and cannot – carry all the information necessary to fully specify every detail of a performance realisation.[144] Nonetheless, the shift in the focus of rhetoric away from the performer towards the authority of the work did reflect the beginnings of a discernable shift in performance style away from expressivity and towards precision and regularity that accelerated after the Second World War. Tempi became more metronomic (and often faster) and the previously normal practices of slowing down for the second theme in a sonata movement and using gradual tempo changes (accelerandi and decelerandi) expressively were progressively abolished. Eric Grunin's 'Eroica Project' demonstrates empirically that the average amount of large-scale tempo flexibility in recordings of Beethoven's Third Symphony decreased over the course of the twentieth century.[145] Grunin's analysis shows that tempi in Toscanini's seven recorded performances of the *Eroica* are inflexible for his time, but not when compared with the even tighter norms of today (we might recall José Bowen's observation that Karajan, not Toscanini, was actually the 'father of modern conducting').[146] Moreover, performances became gradually less heavily ornamented, taking a more consistent and restrained approach to rhythm. These things were designed to foreground musical structure, or at least avoid evoking emotional responses too strongly. The belief was (and largely still is), Bowen states, that 'performances without tempo changes added by the interpreting performer allow[ed] the work to "speak for itself"'.[147]

The Schoenberg School proclaimed themselves to be against both the earlier 'vitalist' style and the later 'geometrical' style. Indeed, many of Schoenberg's pronouncements on performance matters appear inconsistent until one learns to see them primarily as polemical reactions against whatever stylistic trend happened to be

[142] Buxbaum (1988), 61.
[143] Fink (1999), discussed further in Cook (2003).
[144] See Chanan (1995), 11.
[145] Grunin (2001-ongoing).
[146] Bowen (1996), 132. Previously quoted in Introduction.
[147] Bowen (1999), 445-46.

dominant at the time. When talking about flexibility of tempo in 1926, for example, Schoenberg first railed against conductors, saying they should have not 'the slightest scrap more freedom'.[148] In 1948, however, after tempi had generally become more rigid, he was for greater flexibility and against a style that 'suppress[es] all emotional qualities and all unnotated changes of tempo and expression', which 'derives from the style of playing primitive dance music'.[149] 'A change of character, a strong contrast', he wrote, 'will often require a modification of tempo'.[150]

The Schoenberg School's confrontational approach can be linked to the belief summarised in Adorno's aphorism: 'True interpretation must make music against the grain'. It must reject the easy flow of accepted stylistic convention, and 'drift no longer along in the stream of music, of an ingrained and declining language'.[151] Neil Boynton writes that 'For Kolisch, the rehabilitation of music in performance with respect to contemporary practice required both 'Dé*toscanini*sation' (the purging of meaningless objectification) as well as 'Ent*schnabel*ung' (the purging of meaningless subjectification).'[152] Adorno, perhaps even more than Schoenberg, was especially fond of expressing this confrontational stance in negative formulations like 'Against intuitionism *and* positivism'[153] and 'Against Furtwängler and Walter – *and* against Toscanini! And Karajan.'[154] For Adorno, pre-war 'vitalist' styles were too focused on beauty of tone (the 'Schöner Ton') and on the 'culinary' aspects of music, at the expense of the deep 'subcutaneous' structural connections holding them together.[155] But the more stripped-down and ascetic approach of Toscanini – whom he accused of 'dreadful streamline music making'[156] – was equally unsatisfactory. He gave this the derogatory term 'positivistic' because its claim to convey only what was in the score was a false and impossible one.[157]

[148] Schoenberg (1975), 343.
[149] Schoenberg (1975), 320. These particular quotations are highlighted by Philip (1992), 12.
[150] Ibid., 321.
[151] Adorno (2006), 95.
[152] Boynton (1995), 35. 'Entschnabelung' refers to the pianist Artur Schnabel, and translates crudely as 'de-Schnabeling'.
[153] Adorno (2006), 122.
[154] Ibid., 145.
[155] Ibid., 99-101.
[156] Ibid., 6.
[157] Ibid., 56 and 102. The term refers to positivism in the philosophical sense – believing only that which can be positively verified through sensory experience.

Webern did not enjoy Toscanini's performances either. Arnold Elston recalls that on hearing Toscanini conduct Debussy's *La mer*, Webern said 'Everything sounds like an introduction'.[158] In a 1927 letter to his friend Ludwig Zenk, he wrote:

> [P]ure objectivity must win in the end. It is frightful and abhorrent how, to a great extent, only the pose, the appearance, not objectivity governs almost all conductors of today and especially those of rank (yes, they indeed have risen for just that reason).[159]

Here he makes a distinction between objectivity as a false 'appearance' – the stripped-down, 'expressionless' style of Stravinsky – and the 'pure', true objectivity of the Schoenberg School. Webern disliked neoclassicism: according to Elston he saw it as 'regressive and a mutilation of the great classical tradition'[160], to which he considered Schoenberg, Berg and himself to be the true heirs. A passage from Luigi Dallapiccola's diary describes a meeting with Webern in 1942:

> The name of Kurt Weill is mentioned incidentally. And Webern, who up to this moment has always spoken in a subdued voice, suddenly explodes. Red in the face, he points his index finger towards me (but it wasn't I who uttered the name of a composer so repugnant to him!) and asks me a direct question: "What trace can *you* find, in such a composer, of our great Central European tradition which includes the names" (and here he begins to count on his fingers) "of Schubert, Brahms, Wolf, Mahler, Schoenberg, Berg, and myself?" I was embarrassed. I don't say that an answer was absolutely impossible; but what confounds me to the point of speechlessness is that Webern used the term "tradition". Knowing, up to this time, only the cantata *Das Augenlicht*, the Variations op. 27 and […] the Concerto op. 24, I was convinced that the word "tradition" has been eliminated from Webern's vocabulary.'[161]

Dallapiccola's surprise at this incident reveals a rift in attitudes towards tradition already in the process of formation between the younger and older musical generations – a rift that had a decisive effect on Webern reception and performance style in the 1950s, as will be explored in Chapter 2. For Webern, the atonal and serial music of the Second Viennese School was not a rejection of the Austro-German tonal tradition but a continuation of it – indeed a necessary one. This is the principal theme of his published

[158] Quoted in Moldenhauer (1978), 464.
[159] Letter of 17 December, 1927. Quoted in Moldenhauer (1978), 464. (Original source unclear.) According to Moldenhauer, this comment refers not to Toscanini but to Fritz Busch (1890-1951), General Music Director in Dresden. Moldenhauer (1978), 679 n.14.
[160] Quoted in Moldenhauer (1978), 464-65.
[161] Dallapiccola (1972), 5-6. Extract from a diary entry of 1942, three years before Webern's death.

lecture series *The Path to the New Music*, which discusses how 'hidden natural laws'[162] inevitably lead to the emergence, out of extended tonality, of total chromaticism and twelve-note serial technique.

The Schoenberg School claimed to be against both vitalist and geometrical styles, but what style did they then favour? Walter Levin, first violinist of the LaSalle Quartet, pointed out in 1999 that:

> The Kolisch Quartet's interpretations of the standard repertoire were radically different from the norm represented by the Budapest Quartet. They played with less rubato, tighter tempi, practically no portamenti, utmost dynamic contrast, a fierce fidelity to the score coupled with a style of rhetorical expressivity that Kolisch referred to as "the Viennese espressivo", and, most characteristic of all, a historically founded disdain for the limitations and restraint imposed by the aesthetic of the "beautiful tone".[163]

These hallmarks can be heard in the Kolisch Quartet's 1936 recording of Schoenberg's First Quartet, for example [Audio 1]. The tempi are indeed relatively tight, but not completely inflexible. One might suggest that the Schoenberg School performance tradition represented a kind of rigorous, analytically inspired compromise between the emotionality of vitalism and the precision of objectivism – although of course they themselves tended not to describe it in such moderate terms. However, one should also be wary of treating this style and tradition as monolithic. In fact, Schoenberg and Webern worked with performers with many different styles over their lifetimes. The working relationship between the Second Viennese School composers and the Kolisch Quartet in the 1920s and 1930s was extremely close, but in the 1900s and 1910s they had worked equally closely with the Rosé Quartet, who premiered Schoenberg's First and Second String Quartets and *Verklärte Nacht.* But as Robert Philip writes, the Rosé and the Kolisch Quartets stood:

> [O]n opposite sides of the great divide in string-playing in the early twentieth century. Rosé and his colleagues played in the old manner, with very restrained vibrato, prominent portamento, and the gentler old style of bowing, Kolisch […] in the new style with more or less continuous vibrato, restrained portamento and firmer, more assertive bowing.[164]

[162] Webern (1960), 12.
[163] Levin (1999), 328.
[164] Philip (2004), 175-76.

The leader of the Rosé Quartet, Arnold Rosé, was considered a rather backward-looking performer even during the early years of the twentieth century: in the 1930s Carl Flesch described his style as 'that of the [eighteen] 'seventies, with no concession to modern tendencies in our art'.[165] In the Rosé Quartet's 1928 recording of Bach's Air on a G String [Audio 2], the lack of significant vibrato in combination with incredibly precise intonation gives a luminous quality to the sound. Portamento is used judiciously to span melodic leaps, but the rubato (in this and other Rosé Quartet recordings) is relatively restrained compared to the ultra-expressive 'vitalist' styles of the 1920s. In a spoken statement recorded (in English) after hearing the Kolisch Quartet record his Second Quartet in 1936, Schoenberg says their performance had superseded the Rosé's and matched the 'perfect performance' he heard in his head while composing the work.[166] The Rosé Quartet did not record Schoenberg's Second Quartet so we cannot know exactly what their performance sounded like, but, as Philip writes, it:

> [M]ust have been very different from the recording by the Kolisch Quartet. And despite what Schoenberg said, the 'perfect performance' that he imagined when he wrote the score in 1907-8 could not have been like that of the Kolisch Quartet, because such a style of quartet-playing did not yet exist.

It seems that Schoenberg could accept a range of styles in practice, even while insisting that his musical ideas were totally consistent. This was true not just over the course of several decades, but also over very short periods of time. Avior Byron's investigation into the test pressings of the 1940 recordings of *Pierrot Lunaire* conducted by the composer reveals that:

> [I]n a period of not more than three days, Schoenberg accepted relatively great freedom in the *Sprechstimme* pitch contour; as well as a contradictory tendency towards consistency and a certain systematic approach towards pitch, which does not always adhere to the score.[167]

We should be very careful, therefore, about taking Schoenberg's pronouncements on performance, or indeed those of his pupils, at face value. In any case, written descriptions can communicate only a limited amount of information about performance style. Webern's surviving recordings provide us with far richer evidence of his conducting style, showing how his idealistic Schoenberg School performance

[165] Flesch (1957), 50.
[166] Recording reissued on Music and Arts CD 1056.
[167] Byron (2006), abstract. See also Byron and Pasdzierny (2007).

philosophy produced vividly expressive performances. Before investigating these recordings, though, I shall provide an overview of his career as a conductor.

1.3. 'Recognition is secondary': Webern the conductor

Webern's conducting career was one of mixed success.[168] Hans Moldenhauer's biography describes a man forced to take on positions below his abilities for financial reasons. The vast majority of his working life was spent in Vienna, conducting local orchestras or amateur choirs: he was choirmaster of the Singverein der Sozialdemokratischen Kunststelle – who were allied to Austria's left-wing Social Democratic party – and of the Mödlinger Männergesangverein, a male voice choir. Moldenhauer tells us that he coached the chorus of the Israelitic Institute for the Blind, a school where he taught from 1925, twice a week.[169]

However, Webern did achieve some international recognition as a conductor from the late 1920s onwards. In late 1929 he went on tour, with concerts at the Munich Tonhalle on 19 November, on Frankfurt radio on 24 November and on the BBC on 2 December.[170] He was particularly successful in Britain, conducting nine concerts for the BBC between 1929 and 1936. These included repertoire by Schubert, Strauss, and Bruckner as well as Berg and Schoenberg, plus his own Opp. 1, 5 (string orchestra version), 6, 10 and Bach orchestral arrangement.[171] Much of this BBC work arose thanks to Edward Clark – former pupil of Schoenberg, husband of the composer Elisabeth Lutyens, house conductor and 'programme builder' for the BBC music department between 1924 and 1936, and enthusiastic champion of new music. Although Webern's BBC conducting engagements – indeed all his conducting work – ceased after 1936, performances of his music continued to be broadcast by the corporation until early 1939.[172] It is a great loss to scholarship that recordings of these Webern broadcasts were destroyed, although written records of the performances remain in the BBC archives.

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[168] Additional descriptions of Webern as a conductor can be found in Moldenhauer (1978), 459-77; Humpelstetter (1983) and Smith (1986), 103-25.
[169] Moldenhauer (1978), 289.
[170] Described in Bailey (1998) 134.
[171] Described in Foreman (1991c), 17.
[172] Moldenhauer (1978), 518.

Webern's love for the Austro-German tradition was reflected in his choices of conducting repertoire – the majority of works were chosen from the Germanic canon (Bach, Mozart, Beethoven, Brahms and Schubert), but he did include some contemporary works, mainly by Mahler, Berg, Schoenberg and himself. Accounts of his concerts illustrate how much better appreciated he was as a conductor than a composer: while his version of Brahms's *German Requiem* on 12 April, 1931 in the large hall of the Musikverein was broadcast on Radio Vienna and received glowing reviews – the *Allgemeine Zeitung* wrote that he had 'achieved artistic perfection'[173] – the first all-Webern concert in the small hall of the Musikverein the very next day met with barely a mutter from the press. Webern was seen as a particularly strong interpreter of Mahler: Berg described him after a performance of the Third Symphony as 'the greatest conductor since Mahler – in every respect'.[174] This is echoed by comments from more impartial observers. After he conducted Mahler's Eighth, the *Wiener Zeitung* described him as a conductor of the 'very first rank', while the *Arbeiterzeitung* hinted that the stiff competition in Vienna may have been a reason why he did not achieve more success there: 'With this performance of the Eighth, Anton Webern would have become a famous conductor elsewhere, but here in Vienna…'[175]

Those who knew Webern as a conductor describe his acute aural perception (according to Steuermann, '[i]t was so great that only one with a similarly good ear could hear the same things he did'),[176] sensitivity to orchestral sonority and intense emotional involvement with the music when conducting. Although his technique was limited – Josef Polnauer pronounced him 'no virtuoso of the baton' – he appears to have been able to achieve stunning performances. According to Polnauer, 'his spiritual intensity and power of conviction enabled him […] to achieve masterpieces of inspired rendering.'[177] Kurt Manschinger claimed that although Webern knew each work inside out, he never conducted without a score.[178] He appears to have been considered an eccentric – 'a serious-minded, shruggingly tolerated screwball', according to Hans W.

[173] *Allgemeine Zeitung*, 15 April 1931. Quoted in Moldenhauer (1978), 357.
[174] Letter of 28 May 1922 in Grun (1971), 301. The concert was held the previous evening at the Wiener Konzerthaus.
[175] *Wiener Zeitung*, 21 April 1926; *Arbeiterzeitung*, 20 April 1926. Both quoted in Moldenhauer (1978), 291.
[176] Quoted in Moldenhauer, 460. Observation made in a private conversation with Moldenhauer in 1964.
[177] Polnauer (1967, ed.) 72, n. 6.3.
[178] Previously unpublished memoirs of Kurt Manschinger. Quoted in Moldenhauer (1978), 462.

Heinsheimer.[179] However, the picture that emerges from others who worked with him is of someone much more personable than this, who, though sometimes intensely serious, was normally unpretentiously jovial. The 1965 memoirs of Johann Humpelstetter, a member of the Singverein under Webern from 1925 to 1934, portray Webern as a good choirmaster who often made points with dry jokes and who spoke in 'a homely, discreet Viennese dialect' [ein gemütlichen, dezenten Wiener dialekt].[180] Privately, Humpelstetter writes, Webern was 'the most modest, unassuming man one can imagine'.[181]

His reputation for eccentricity most likely arose from his intense rehearsal techniques. In keeping with Schoenberg School practice, Webern always insisted on a great many rehearsals, even with trusted professionals: the *Musikblätter des Anbruch* tells us that for the 1927 premiere of Berg's Chamber Concerto with Steuermann and Kolisch as soloists, plus wind players from the Vienna Philharmonic, Webern required 13 rehearsals.[182] A remark made by Webern, in his Viennese dialect, at a dress rehearsal for a 1931 performance of the *German Requiem* – 'Da brauchert i *hundert* Proben, damit all's da is, wa i ma da vorstell' ['I would really need a *hundred* rehearsals for everything to come out that I envision']][183] – bears out Humpelstetter's remark that he viewed rehearsal as an end in itself. 'Must it be the performance upon which everything finally depends?' Webern once asked. 'To get really immersed in a work,' he continued, 'the rehearsals are the thing. The fact that we eventually perform somewhere is a subordinate consideration. Recognition is secondary.'[184] Webern was extremely thorough and exacting in rehearsals: he spent a very long time working on specific sections and often did not get beyond the first few bars during an entire session. Sometimes this caused amusement or frustration among the players. Gordon Claycombe, an American pupil of Webern, noted in his diary: 'First rehearsal […] lasted the entire morning. Webern rehearses so thoroughly, every measure phrase for

[179] Heinsheimer (1968), 15. Quoted in Moldenhauer (1978), 461.
[180] Humpelstetter (1983), 54.
[181] 'Als Privatmann war Anton Webern der unauffälligste, bescheidenste Mensch, den man sich denken kann.' Humpelstetter (1983), 68.
[182] *Musikblätter des Anbruch* 4 (1927). Quoted in Eimert and Stockhausen (1959, eds.), 11. [1955 German edition, 18].
[183] Remark of 11 April 1931. Humpelstetter (1983), 69. Quoted and translated in Moldenhauer (1978), 356.
[184] Original German: 'Muß es schließlich die Aufführung sein, auf die es ankommt? So in ein Werk hineinzusteigen, dazu sind die Proben da. Daß wir das dann wo vormachen, ist Nebensache. Anerkennung ist sekundär.' Humpelstetter (1983), 69. Quoted and translated in Moldenhauer (1978), 356-57.

phrase.'[185] Rudolph Ganz described his rehearsal style as 'fantastic as far as sensitive demands were concerned, but there was much giggling among the musicians present over the small details he tried to impart.'[186]

Such an impractical approach had consequences. Ernst Krenek wrote that:

> As an interpreter of music, Webern was an implacable perfectionist – an attitude characteristic of all Schoenberg's disciples […]. The demands Webern made upon himself and his musicians were so severe that frequently the purpose of such efforts, that is, the presentation of the music, was jeopardized and nothing was accomplished.[187]

Paul Stefan, reviewing Webern's performance of Mahler's Sixth Symphony in the *Badische Landeszeitung* the same year, suggested that Webern's inability to compromise made him unsuited to regular employment:

> Webern as a conductor is a singular case. A musician of the greatest purity of intent, of an incomparable emotional and interpretive strength, he nevertheless is to be considered, perhaps for the very reason of his ecstatic nature, as a man who would not be able to fit himself into routine work. But each time he mounts the podium he succeeds in a rendition of such beauty that one asks oneself in vain why such a performance must remain the exception.[188]

Webern was rather nervous and had a tendency to run away from difficult situations: in 1922, he resigned from his conductorship of the Konzertverein and cancelled their subsequent concerts due to criticism from an orchestra member.[189] As we saw earlier, he often turned down opportunities to conduct works he did not consider could satisfy his high standards in performance with the time and resources available. Most notoriously, he ran away from conducting the premiere of Berg's Violin Concerto at the ISCM Festival in Barcelona in April 1936. Depressed by Berg's recent death and unable to communicate with the Catalan musicians due to language difficulties, Webern made slow progress. According to the soloist Louis Krasner, 'After two rehearsals we had not covered more than three or four pages of the 76-page score'.[190] Upon the third rehearsal, Webern locked himself in his hotel room and declared that the performance must not

[185] Entry for 16 Feb 1932, concerning rehearsals for a Pan-American Association of Composers concert in Vienna on 21 February. Quoted in Moldenhauer (1978), 378.
[186] Letter to Moldenhauer, 4 August 1964. Quoted in Moldenhauer (1978), 294.
[187] Krenek (1966), 6.
[188] *Badische Landeszeitung*, 25 December 1930. Quoted in translation in Moldenhauer (1978), 460.
[189] Moldenhauer (1978), 250.
[190] Krasner (1991), 7.

take place. It was only after some persuasion that he allowed Hermann Scherchen to take over at the last minute.[191]

News of the Barcelona incident doubtless worried executives at the BBC, where he was due to conduct the Berg Concerto the next month with Krasner and the BBC Symphony Orchestra at Broadcasting House. This time, however, Webern was successful and the work was broadcast, along with two movements from the *Lyric Suite*, as a Berg memorial concert on 1 May 1936. A second evening broadcast on 3 May featured Webern conducting Bruckner's Seventh Symphony. Recordings of these broadcasts are no longer in the BBC archives, but a private recording from the radio of the first concert was made by Krasner, later restored and released in 1991 by Continuum.[192] Webern was only 53 at the time of these 1936 London appearances, but there his conducting career came to an end.

1.4. The Wiener espressivo: Webern's conducting style on record

Webern's conducting style can perhaps be described a synthesis of opposites: performances of huge flexibility and apparent freedom, combined with a rigorous and exacting approach. Those who saw Webern play the piano for demonstration purposes describe his intense expressivity. The conductor Otto Klemperer said Webern played 'every note' of his Op. 21 Symphony 'with enormous intensity and fanaticism […] passionately. […] When he had finished, I said, "You know, I cannot conduct it in that way. I'm simply not able to bring that enormous intensity to your music."'[193] Arnold Elston described the composer's piano playing as 'always a revelation of the élan, of the intensest expressivity which infused every note, so that one experienced a living presence, and all questions of tone-row manipulations and constructive devices seemed totally extraneous.'[194] According to Steuermann, when Webern played some of his Concerto, Op. 24, on the piano: 'He played it so freely that I hardly could follow the music, but it was extraordinary. When he conducted, however, he was not so free; I suppose one cannot be, or at least he could not.'[195] Timothy Day suggests that this may

[191] Episode related in Moldenhauer (1978), 455-57 and Krasner (1991), 7-8.
[192] SBT 1004.
[193] Heyworth (1973), 76.
[194] Elston's previously-unpublished memoirs. Quoted in Moldenhauer (1978), 508.
[195] Schuller (1964, ed.), 28.

have been another manifestation of Webern's idealism: 'performances that would have won the composer's wholehearted approval may not have been realizable; at any rate they were unrealized.'[196] No recordings of Webern playing the piano exist, but the recordings of him conducting are still characterised by a flexibility of tempo that by modern standards is remarkable.

Webern made only four recordings, of which only two are easily available today – and none are of his own music. The first is a 1931 recording of Webern conducting the Singverein performing Brahms's *Abschiedslied* and Schoenberg's *Schein uns, du liebe Sonne* at Kasino Zögernitz in Döbling.[197] This was the only commercial recording by Webern released during his lifetime, but is now very difficult to find. The second is of a live performance of Webern conducting the Frankfurt Radio Orchestra in his 1931 orchestration of Schubert's German Dances (D820), recorded on December 29, 1932, included as an extra item on Pierre Boulez's 1978 Webern boxed set.[198] The third is Krasner's recording of the 1936 live BBC broadcast of Webern conducting Berg's Violin Concerto.[199] An unreleased acetate of the second half of this concert, featuring two movements from the *Lyric Suite* arranged for string orchestra, was made by the MSS Recording Company, and forms the fourth recording, now lost.[200]

The two commercially available recordings – the live concert recordings of the Schubert German Dances and Berg Violin Concerto – reveal an invaluable amount of information about Webern's conducting style.[201] The Berg recording, with Krasner and the BBC Orchestra, is played with a solemn, reflective reverence fully befitting a memorial concert. Webern adopts an extremely slow tempo, as one can hear in the extract from the opening of the first movement [Audio 3]. Lewis Foreman praises its

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[196] Day (2000), 183.
[197] Produced by Ultraphon and released by the Kalliope Gramophone Company label in the series *Österreichische Volksmusik* as Kalliope 3314. Eisler's *Auf den Strassen zu Singen* and *Der arme Kunrad* were also recorded in the session but not released. Details taken from Moldenhauer (1978), 364.
[198] CBS 79204, reissued in 1991 as Sony SM3K 45845. This was, in fact, the first performance of Webern's Schubert arrangement.
[199] Described in 1.3. above.
[200] A recording of the Bruckner 7 concert on 3 May 1936 appears in the Leech handwritten list of discs in the British Library Sound Archive, which states that only portions of each movement were recorded, but this never came to the BLSA.
[201] Helmut Haack calls the Schubert recording 'one of the most important testimonies to the performance practice of the music of the Schoenberg School' [eines der wichtigsten Zeugnisse der Aufführungspraxis der Musik der Schönberg-Schule]. Haack (1981), 62.

'visionary intensity' and 'fanatical fervour'[202] and Robert Layton its 'glowing intensity', in which 'time seems to stand still and yet there is also a natural sense of musical pace.'[203]

The tempo flexibility of both recorded performances is immediately striking, the tempo fluctuating constantly from the small-scale 'mercurial shifts' of what Robert Fink calls 'expressive' rubato up to the broad arcs of 'structural' rubato.[204] On the smallest time scale, stylistic quirks add colour and character, like the uneven rhythm of the melody in the recording of the first Schubert dance [Audio 4]. Modern recordings of this piece, such as the 1993 recording conducted by Pierre Boulez [Audio 5] or the 2002 recording by Robert Craft [Audio 6], tend to reproduce the violin melody in even note values, as notated [Example 1] but in Webern's the second note of each note pair is lengthened, almost in the manner of a Scotch snap, emphasising the piece's dance-like character and rustic origins. The tempo graph in Figure 2a compares the beat-to-beat timing in these three recordings of the first dance, showing that Webern's recording contains more pronounced tempo fluctuations at a small-scale, beat-to-beat level than Boulez's or Craft's.[205] It is also significantly faster on average and reaches higher maximum tempi.

Other local expressive flourishes abound in Webern's recording, such as the portamento in the upper strings. Slides can be heard in the solo violin passages near the opening bars of the third dance [Audio 7] and the Berg recording contains ample portamento, both in Krasner's solo part and in the orchestral string parts. The entire first violin section slides simultaneously between the F# and D of bar 53, a move requiring deliberate coordination from the conductor [Example 2 and Audio 8]. The dislocation of melody from accompaniment – a typical pre-war stylistic trait – is particularly audible in the second dance, where various solo instruments and small instrumental groups pass the melody between them [Audio 9]. Here the melody instruments seem to use somewhat more rubato than the accompaniment, which is relatively steady, and the louder, more energetic phrases are played significantly faster than the more relaxed phrases.

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[202] Foreman (1991b), 24.
[203] Layton (1991).
[204] Fink (1999), 310.
[205] Timing data was gathered using the tapping method in Sonic Visualiser (described in the Note on the Text).

A similar connection between tempo and expressive character is noticeable in the fourth dance [Example 3 and Audio 10]. This dance is in a binary form with both sections repeated and contains strong contrasts. In the 'A' section, a loud, forceful, dance-like antecedent phrase on strings, punctuated by sforzandi, is followed by a soft, reflective consequent phrase on woodwind and brass, which is then repeated. This forceful antecedent-reflective consequent phrase pattern occurs once more in modified form after the double bar, before ending forcefully; the B section is then repeated. Webern renders these contrasts vividly through timing. This is visible in the timescape in Figure 3 – an alternative method of visualising timing data that shows tempo changes relative to the average for the whole performance rather than displaying tempo as an absolute metronome mark.[206] The three almost identical formations on the left side of Figure 3 show that Webern assigns contrasting tempo contours to each phrase: the forceful string antecedent phrases (yellow flares) are played faster than the 'reflective' woodwind consequent phrases (larger blue patches), which have more pronounced ritardandi.[207] The triumphant concluding phrase and its repeat are played fastest of all, marked by the two yellow and orange triangles on the right of the timescape. Thus tempo contrasts are used systematically to highlight contrasts in tension between structural sections, in keeping with the close connection noted by Philip (and indeed Schoenberg) between tempo and expressive character in pre-war performance style. However, listening more closely to the fourth dance [Audio 10], and looking more closely at Figure 3, one can both hear and see that Webern does not simply perform the forceful phrases quickly and the reflective phrases slowly: in actual fact, he starts the forceful phrases at a fast tempo then slows down rapidly before the end. I would argue that in the first phrase and its repeat, this slowing reflects the transition from a stable harmony (I in B flat major) to an unstable harmony (III). It is as though the phrases begin confidently, then stall and falter as their harmonies stray away from the tonic towards the mediant. The third phrase is texturally similar to the first and remains distant from the tonic throughout, culminating in G major (VI, or V of ii). Webern applies the rapid deceleration pattern here, too. In the third dance, too, Webern lingers over progressions to more distant harmonic regions: the brief, unexpected subdominant inflection at bars 13-14 and its repeat [Example 4] (at 0:39-0:40 and repeated at 0:53-0:54 in Audio 7) is marked with a ritardando and crescendo on both occasions, peaking

[206] The timescape was developed by Craig Sapp as part of the CHARM Mazurka Project. The free online software is available at http://mazurka.org.uk/software/online.
[207] The right hand portion of the timescape is predominantly yellow and red, showing the second half of the dance is mostly faster than the first.

at the point of maximum tension and uncertainty – the V of the V-I progression in the subdominant.

With its heavy rubato, with slowing at significant moments, expressive use of portamento, dislocation of melody from accompaniment and use of tempo changes to underline expressive contrasts, Webern's recording reflects general pre-war stylistic practice, lacking the 'tidiness' and tight ensemble of modern performances. Comparing Webern's boisterous and spirited rendition of the fourth dance [Audio 10] with the crisp, rather clinical approach of Craft's 2002 recording [Audio 11] supports the point made by Robert Philip and others that neatness has become an absolute requirement in modern recordings, but at the loss of a certain sense of energy, life, or vitality.[208] As Philip writes:

> Old-fashioned playing uses rubato to create a sort of relief, in which significant details are made to stand out. By comparison, a modern performance is much smoother and more regular. Any point of emphasis are carefully incorporated into the whole, nothing is allowed to sound out of place; the relief has been, so to speak, flattened out. If we now find some old-fashioned rubato clumsy and eccentric, perhaps a musician from the early twentieth century would find modern playing lacking that life and rhetorical eloquence which rubato was supposed to create.[209]

That is not to say that Webern's performance of the Schubert Dances is chaotic, however. The orchestra makes much use of the acceleration-deceleration patterns of phrase arching, which are clearly audible in the first dance [Audio 4] and visible on the smoothed timing graph of this dance shown in Figure 2b.[210] The phrase arches relate closely to the simple binary structure of the dance: it is 16 bars long and is divided into two repeated eight-bar phrases, giving an AABB form. Figure 2b shows that Webern, Boulez and Craft all use phrase arching in the first dance at the eight-bar level, but Webern's are the most pronounced, strongly differentiating his phrases. It also reveals that Webern's orchestra uses some minor phrase-arching at the four-bar level, slowing slightly in the middle of the third and fourth eight-bar phrases (bars 20 and 28), whereas Boulez and Craft do not. All three recordings of the first dance slow down slightly over

[208] It may also be relevant that Webern's recording is live while Boulez's and Craft's are studio recordings, which many consider lack the 'immediacy' of a live performance. See Blier-Carruthers (2009).
[209] Philip (1992), 69.
[210] Haack (1981) also notes the relationship between performance timing and phrase structure in his timing analysis of this recording, made with a stopwatch before the advent of sound analysis software.

the course of the whole dance, especially Webern's, in which the pauses between eight-bar phrases get progressively longer, visible as increasingly deep troughs on the graph.[211] Thus the timing relates to the simple binary structure at various hierarchical levels in all three performances. The timing fluctuations of Webern's orchestra, however, are by far the most extreme.

One consequence of this is that Webern's accelerandi towards the middle of phrases are quite noticeable in this first dance and can also be seen in Figure 2c. Like portamenti, pronounced accelerandi are another feature of pre-war classical performance that today have a tendency to sound comical and so are largely avoided. Accordingly, neither Boulez nor Craft accelerate anything like as much as Webern in the middle of phrases. Exaggerated ritardandi, too, can be heard at phrase ends throughout Webern's recordings of the dances, such as at around 0:15 and 0:25 in the second dance [Audio 9]. Often there are long pauses on cadential chords – the final chord of the Berg Concerto recording [Audio 12] is held for nearly 30 seconds! Such a feat might not be attempted by a contemporary conductor at the risk of inappropriate laughter from the stalls, but in the 1930s this kind of extreme lengthening was a perfectly acceptable way of lending gravity or weight to significant moments. And what could have been more significant for Webern than the end of this Berg Violin Concerto performance, so soon after Berg's death?

The hallmarks of Webern's conducting style might therefore be summarised as: substantial tempo flexibility (to communicate small- and large-scale phrase structure, to draw attention to particularly significant moments and to accentuate contrasts expressively); significant portamento; and a relatively liberal approach to ensemble. In short, if the two Webern recordings provide us with a key to the Schoenberg School performance practice, what Kolisch called the 'Wiener espressivo', then this appears to share a remarkable amount in common with the 'vitalist' styles of the 1910s and 1920s, if not even earlier styles. Not that this should be particularly surprising. We should not forget that Webern was born in 1883 and his stylistic compass was formed in the late years of the nineteenth and early years of the twentieth century. Haack writes of the 'nineteenth century origins'[212] of Webern's tempo fluctuations and describes him, like the older Zemlinsky (born 1871), as a conductor of the 'Mahler School'. For Haack,

[211] This slowing also occurs in the Boulez and Craft recordings, but more subtly.
[212] 'Die Temposchwankungen in Weberns Aufführung […] entsprechen einem sinnvollen System musikalischer Ausdrucksmittel, das dem 19. Jahrhundert entstammt.' Haack (1981), 55.

Webern, along with Willem Mengelberg (also born 1871), the pianists Josef Hofmann (born 1876) and Ignaz Friedman (born 1882) and Mahler himself (born 1860) belonged to a generation who contributed substantially to a 'final expansion of Romantic interpretative freedom', causing a rift in the 'break with the Romantic past' that had begun in the 1920s.[213] This rift, however, was ultimately unsuccessful. Haack writes that his conducting style was 'totally anachronistic by 1931' (the year Webern wrote his Schubert arrangement), which:

> '[M]ay explain the isolation of Webern as musician and conductor, or at least the insignificance of his wider impact. The consequence of this is astounding: that in the very historical moment of its demise, Webern brought a system of expression to a perfect fulfilment barely achieved elsewhere.[214]

Although we have no recordings of Webern conducting his own works, there is absolutely no reason to believe that Webern did not adopt such a 'romantic' approach for these, too. Anecdotal evidence, too, strongly supports the view that Webern expected a relatively conventional (that is, for the 1920s and 1930s) performance style even though his music was in many respects revolutionary and new. The results must have been extremely free, intensely expressive, lyrical and highly differentiated – very different to the style that came to be adopted for his works after the war, as will be explored in the next chapter.

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[213] The original passage reads: 'Die Geschichte der Interpretation im 20. Jahrhundert ist gekennzeichnet durch einen Bruch mit der romantischen Vergangenheit. Seit den 20er Jahren wird, besonders in Deutschland, im Musikschrifttum die Abkehr von der subjektiven sogenannten Interpretenwillkür gepredigt; Klarheit, Objektivität, Notentreue und äußerste Exaktheit sind die neuen Ideale, während Innerlichkeit, Gefühlstiefe, Poesie und das Sich-Versenken in die Ausdrucksinhalte der Komposition von den Interpreten seither weniger gefordert werden. Durch eine letzte Ausweitung der romantischen Interpretenfreiheit hatte die Generation, der als Dirigenten Mahler und Mengelberg, als Pianisten z.B. Josef Hofmann und Ignaz Friedman angehören, zum Tendenzumschlag wesentlich beigetragen. Webern ist, wie Zemlinsky, als Dirigent der Mahler-Schule eng verpflichtet.' Haack (1981), 49.

[214] ['Die Beschreibung von Weberns Bearbeitung, die zu vergleichen wäre mit seiner Bach-Bearbeitung, würde allerdings teilweise von Schubert wegführen und Webern betreffen, weshalb hier nicht weiter darauf eingegangen werden soll. Daß ein solches Verfahren schon 1931] völlig anachronistisch war, ebenso anachronistisch wie die Art seines Dirigierens, mag einen Hinweis auf die Gründe geben für die Isolation, mindestens aber für die sehr geringe Breitenwirkung des Musikers und Dirigenten Webern. Doch bewundernswert ist die Konsequenz, mit der Webern ein Ausdruckssystem im historischen Moment seines Absterbens zu einer anderswo kaum erreichten vollkommen Erfüllung gebracht hat.' Haack (1981), 60.

1.5. A tradition in exile

A performing tradition did exist during Webern's lifetime for his works, then, but for various reasons did not leave a significant legacy (except, perhaps, on string quartet players, as Chapter 3 will suggest). The fiercely protectionist attitude the Second Viennese School composers had towards their music – only permitting a few select players to attempt performances – may have had an effect on the total number of pre-war performances and on the overall vigour of the tradition. The small number of surviving recordings of performances conducted by Schoenberg or Webern must also have contributed and the non-populist nature of the music is an obvious background issue. The most important reason for the limited legacy of the Webern performance tradition, however, was politics: the advent of the Nazi regime in Austria and the ensuing Second World War.

Worsening political conditions in Austria during the 1930s had a disastrous effect on Viennese musical life and new music in particular: audiences were conservative, the Schussnig government was hostile to forward-thinking art and concert programmes of music by living composers tended to feature only those of the older generation, particularly Richard Strauss and his followers. According to Searle, the music of Schoenberg, Berg and Webern could only be heard in Vienna at places like the ISCM chamber concerts and there were few large-scale performances.[215] From 1936, political and artistic conditions in Austria became too difficult for Webern to continue conducting in his home country and travel restrictions prevented him working abroad. He was not allowed, for example, to go to London to conduct *Das Augenlicht* in 1936.[216] After the *Anschluss* – the annexation of Austria by Germany – in 1938, the Austrian section of the ISCM was shut down and Webern's works were declared *Entartete Kunst* [degenerate art]. This effectively ended his musical career: he had extreme difficulty getting anything published or performed during the war years.

Many Viennese Jewish musicians were forced into exile during the 1930s, including most of the Schoenberg Circle. Schoenberg himself emigrated to the United States in 1933 (via Paris) and many of Webern's closest friends and pupils did likewise. These included Kolisch and his quartet, Steuermann, Adorno, Krasner, Galimir, Felix

[215] Searle (1961).
[216] See Moldenhauer (1978), 501-02.

Greissle, Heinrich Jalowetz and Rudolph Kurzmann. Peter Stadlen, Else Cross (another piano pupil), Erwin Stein and the musicologists Oskar Adler and Egon Wellesz ended up in Britain, while Willi Reich moved to Switzerland.[217] Berg had already died in 1935, leaving Webern – whose aristocratic Austrian background left him relatively safe from personal (as opposed to artistic) persecution – almost alone in Vienna by the onset of war in 1939.

These musicians typically found employment abroad and often took up influential teaching positions, especially in the United States. According to Walter Levin, who himself fled from Germany to America via Palestine, 'performing musicians, ensembles, teachers, and composers fleeing fascist Europe irrevocably reconfigured the American musical landscape' in terms of performance quality and style, repertoire, audience types and sizes, and institutional structures.[218] This was particularly the case for chamber musicians. When the Kolisch Quartet went to America, they brought with them Second Viennese School aesthetics, playing styles and rehearsal techniques. Leonard Stein, a pupil of Schoenberg, cites their presence as 'the greatest stimulus for the development of string quartet playing in the United States, starting with the Juilliard Quartet in the late 1940s'.[219] In the case of string quartet players, it could be said that the Schoenberg School performance tradition was not so much destroyed as dispersed – relocated after the war to other parts of Europe and to the United States.

The aesthetic context also changed after the war. Although exiled Second Viennese School musicians remained active and influential performers, they were increasingly ignored by an avant-garde movement of young composers who, newly aware of Webern and inspired by the radicalism of his music, wanted to appropriate it for their own purposes. It was not until the early 1950s that Webern's works first began to be widely recorded. As we will see in the next chapter, their reinterpretation by a 1950s avant-garde had a decisive effect on performance style in many of the earliest Webern recordings.

[217] See musician biographies in Grassl and Kapp (2002, eds), 531-639. Brinkmann and Wolff (1999b) give a list of émigré musicologists.
[218] Levin (1999), 322.
[219] Stein (2002), 62.

Chapter 2

70 years of Webern on record

2.1. 1939-1945: 'Not really my music'

The history of Webern on record begins in 1939. During the Second World War, Webern's music was banned in Germany and Austria and performances elsewhere ground to a halt. Just before the outbreak of war, however, a recording was made in Britain – the first recording of any of Webern's works and the only one issued during his lifetime. The recording was of the String Trio, Op. 20, played by the Kathleen Washbourne Trio, an English ensemble [Audio 13]. It was recorded in early 1939 and commercially issued later in the year by Decca on 12" double-sided electrical 78rpm disc, as K904.[220]

A copy of the recording was sent to Webern by Erwin Stein and on 9 December 1939 the composer wrote to Willi Reich:

> The recording of my Trio is, as a recording, very good. But the performance! I recognize the presence of diligence and the best of intentions, but not really my music. I am convinced, however, that it would have turned out much better if only one had given the players a few pointers. Nonetheless, I certainly respect the accomplishment.[221]

Webern's criticism of the Washbourne Trio's performance ('not really my music') is kindly and diplomatic, but absolute. Listening to the recording today, one can sympathise with it. Occasionally the performers appear to be struggling with intonation, rhythm and the precise reproduction of the delicate timbral effects called for by the score. The tempo in the first movement is very slow compared to later recordings of Op. 20 and at times the performance has the quality of a run-through. Nevertheless, it has a pleasing warmth with some exuberant portamento flourishes, although the first violinist falls shy of giving full body to the notated glissandi in bars 44 and 64 of the first movement [see bar 64 in Example 5]. It provides us with a tantalising glimpse of what Webern's works may have sounded like played by performers to whom a 1930s style was second nature – although it was evidently not the kind of 1930s style Webern wanted.

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[220] This recording can be downloaded from the CHARM/King's Sound Archive at: http://www.charm.kcl.ac.uk/sound/sound_search.html.
[221] Quoted in Moldenhauer (1978), 519.

The Op. 20 String Trio, one of Webern's most difficult works, is an odd first choice for a recording. The Trio provoked a riot at the 1928 ISCM festival, as described in Chapter 1,[222] and, in a 1938 concert, the cellist even walked off the stage during the middle of the performance, complaining it was 'unplayable'. The incident was reported in the *Daily Telegraph and Morning Post* of 16 March 1938 under the headline 'Why Cellist Walked Out':

> Mr James Whitehead, cellist of the Philharmonic Trio, who walked off the stage at Wigmore Hall on Tuesday night at the start of the first English performance of Webern's String Trio, Op. 20, gave his version of the incident yesterday to a representative of the *Daily Telegraph and Morning Post*. The Philharmonic Trio were playing in the third Adolph Hallis chamber concert. Mr Whitehead, after playing a few bars, exclaimed, "Oh, I can't play this thing," and walked off, followed shortly by his two colleagues. "I am afraid I felt no sympathy with the piece [he said…]. To me it is not music, but a nightmare and nonsense."[223]

Critics in the 1920s and 1930s spoke of the work's 'esoteric subjectivism' and 'desolate eccentricity' and accused Webern of writing 'bloodless brain music'.[224] Before a 1928 BBC concert including the work, the BBC music critic Ernest Newman pronounced himself 'utterly unable to follow [Webern's] music. I can tell you nothing about this Trio, because after repeated study of it I still cannot follow his mental process at all'.[225]

Op. 20 presents a number of barriers to easy intelligibility. As can be seen in the score [Example 5], the angularity and fragmentation of the lines is extreme even by Webern's standards: fleeting, overlapping gestures are dispersed across a wide register and separated by frequent, lengthy silences. There are many string harmonics, grace notes and sudden changes of articulation and bowing. There are passages in fast tempi and the dynamics tend to be very soft. In contrast to the intellectual paradigm that later came to dominate Webern reception, the *Gramophone* reviewer of the Kathleen Washbourne disc advocated a purely intuitive approach to understanding the music: 'It is no use discussing the music analytically. It is not to be explained but felt'.[226] Like most early reviews of Webern concerts, reviews of the Decca recording tend to focus on

[222] See Moldenhauer (1978), 323-34.
[223] Quoted in Ibid., 684 n. 14. Incident related in the same volume, 503 and described in a letter from Webern to Reich of 29 April 1938.
[224] Heinrich Strobel, *Dresdner Anzeiger*, 30 May 1928 [previously cited in Chapter 1]; *Kreuzzeitung*, 25 May 1928; *Chemnitzer Tageblatt*, 30 May 1928. All quoted in Moldenhauer (1978), 323.
[225] Newman (1928). Quoted in Doctor (1999), 139. The concert took place on 15 October 1928, but the Webern Trio was not subsequently transmitted, causing much controversy.
[226] Robertson (1939), 108.

the work's unfamiliar idiom rather than the performance – understandable since no other recordings existed at the time and Webern performances were infrequent. Some lamented this: as a 1940 *Musical Times* review of the Op. 28 String Quartet observed:

> The Webern Quartet one doesn't read at all: the score is quite baffling, consisting largely of detached notes and rests scattered about the page. Such relationship as there is can be made plain only by performance.[227]

It was not until the early 1950s that Webern's music began to be widely performed and recorded. By this point, the 'detached notes and rests' of his scores had become the subject of a new and remarkable fascination.

2.2. 1945-1960: Darmstadt Webern

2.2.1 Post-1945: Stunde Null

The Webern revival did not begin immediately. His shooting in September 1945 by an American soldier[228] was not mourned in Vienna and there were no commemorative concerts, although a BBC memorial programme was broadcast on 3 December 1945 on what would have been the composer's 62nd birthday.[229] The austere period immediately following the end of the war, known in German-speaking countries as 'Stunde Null' [zero hour], was one of struggling to rebuild what the war had destroyed. Cultural institutions were subject to widespread reform and 'denazification' – the removal of those who had supported the Nazi regime from public authority – was implemented with varying thoroughness by the Allied forces in Germany and Austria.[230]

There were few Webern performances: according to his wife Wilhelmine, virtually none in Austria or Germany until 1948,[231] but this had begun to change by 1949, when she wrote that performances were taking place in America, London and

[227] Bonavia (1940), 21.
[228] See Moldenhauer (1960, 1970 and 1978).
[229] Moldenhauer (1978), 641.
[230] See Thacker (2007).
[231] She may not have been aware of performances happening elsewhere, however; Boulez remembers a performance of the Symphony, Op. 21, occurring as early as 1946. Boulez (1976), 79.

Brussels.[232] Interest in the music of the Second Viennese School began to grow during the late 1940s and a growing number of commercial recordings were released featuring works by Schoenberg and Berg.[233] Commercial recordings of Webern's works began to appear around 1950 with the release of a recording of the Symphony, Op. 21, conducted by René Leibowitz for the French label Classic[234] and also appearing on the American label Dial, as Dial 7. The Dial release also included recordings of the Opp. 5 and 9 pieces played by Kolisch's Pro Arte Quartet.[235] The same year, a recording of the Three Little Pieces for Cello and Piano, Op. 11, was released on Paradox.[236] 1951 saw the release of Dial 17, with recordings of the Op. 24 Concerto, the Op. 22 Quartet, the Op. 27 Piano Variations and the Four Songs, Op. 12, again conducted by Leibowitz. Columbia released a 3LP set of complete Second Viennese School string quartets played by the Juilliard Quartet in 1953[237] and another recording of the Piano Variations played by Jeanne Manchon-Theïs appeared in 1954.[238]

Leibowitz was an important interpreter of Second Viennese School repertory in the late 1940s and early 1950s. A French composer, conductor, teacher and theorist who had studied with Schoenberg, Webern and Ravel, his 1947 book *Schoenberg et son école* was the first extensive study of Schoenberg's serial method.[239] Much later, both Pierre Boulez (a former pupil of Leibowitz) and Robert Craft acknowledged that his performances had had a galvanizing effect on those interested in new music at the time: according to Craft, his Webern Concerto made a particularly big impression on Juilliard and other music school students.[240] His Webern performances on the two Dial LPs, sadly, have never been commercially reissued, although the Pro Arte Quartet recordings on Dial 7 were reissued in 2003.[241] Leibowitz, like Kolisch, had known Webern personally and both sets of performances on the Dial recordings exhibit the Schoenberg

[232] Moldenhauer (1978), 642. Letter of 11 Feb 1949 to to Webern's cousin Ernst Diez.
[233] See Wayne Shoaf's Schoenberg discography. The works of Schoenberg had been recorded as far back as the 1920s but the number of recordings made increased rapidly from the late 1940s onwards.
[234] Classic 2080/1 (two 10-inch 78s). Recorded in 1949.
[235] The Kolisch Dial recordings were made in early 1950, the Paradox recordings possibly earlier. Glenn Gould recorded the Piano Variations, Op. 27, in 1950 for the Canadian Broadcasting Company, but this was not broadcast or released (see discography).
[236] Performed by Seymour Barab (cello) and William Masselos (piano), PL 10001.
[237] Columbia Special Products, SL 188, recorded in 1952.
[238] On a variety of labels (see discography).
[239] Published in English translation as *Schoenberg and his School*.
[240] Craft (1997) and Boulez (2005).
[241] On the 6-CD set 'In Honour of Rudolf Kolisch', also including many Kolisch Quartet archive recordings (Music and Arts, CD-1056).

School stylistic hallmarks: strongly contoured phrases, horizontal continuity and expressive intensity combined with analytical clarity.[242] By the early 1950s, however, the traditional approach of Leibowitz was beginning to be challenged by a younger generation who understood the music of the Schoenberg School – and Webern in particular – in a radically different way.

2.2.2. 1950-1955: The cult of Webern

In the early 1950s, a new compositional avant-garde sprang up in Europe and America. A group of mainly young composers described at the time as 'small, though singularly gifted and articulate'[243] and including Pierre Boulez, Karlheinz Stockhausen and Milton Babbitt as well as the older Herbert Eimert, professed the twelve-note serialism of the Schoenberg School to be the new theoretical orthodoxy. Boulez repeatedly condemned composers who did not understand the 'ineluctable necessity' of serialism as 'useless'.[244] Believers, though, were imbued with futuristic ambition and a sense of being, as Boulez wrote, 'on the brink of an undreamt-of sound-world, rich in possibilities and still practically unexplored, whose implications we are only now beginning to perceive.'[245]

This period of obsession – Kathryn Bailey memorably termed it 'serial madness'[246] – was brief (according to Boulez, it started in 1951 and had already passed its peak by 1954)[247] but its after-effects were felt for a very long time. Along with a commitment to serialism came a commitment to avant-garde modernism and to the idea of the New, of which the Second Viennese School were seen as prime musical representatives. With the old order shattered and its institutions in disarray, many musicians felt a strong urge to reject the past. As Boulez wrote later: '"Post-war" was not going to be just a return to "pre-war", in music any more than it was in cooking, clothes or drinks […]. There was to be no return to the fusty habits of the past'.[248] Post-Stunde Null, the musical establishment in Germany and Austria had become tainted by

[242] Leibowitz's recording of the second movement of the Symphony, Op. 21, is discussed in Chapter 3.
[243] Goldman (1954), 632.
[244] Boulez (1952), 21; Boulez (1991), 113 and 303.
[245] Boulez, (1991), 178.
[246] Bailey (1995), 644.
[247] Boulez (2005).
[248] Boulez (1986), 505.

association with the Nazi regime and many of its old authority figures blacklisted under denazification. In this context, a belief in modernism became a political and moral as well as aesthetic issue. Toby Thacker describes:

> [A] commonly shared perception in post-war Germany: that international modernist music was a language of anti-fascism […] Nazi chauvinism, anti-Semitism, and banality were to be replaced with an understated, but explicit, commitment to internationalism, to modernism, and to the highest musical standards.[249]

This commitment was reflected in the generous public funding received by musical avant-garde movements across Europe, especially in what was then West Germany. During the 1950s, West German radio stations broadcast a substantial amount of new music and paid highly for specialist musicians who could perform the complex scores of Boulez and Stockhausen.[250] New musical institutions were founded, electronic music studios opened (most notably the studio at Nordwestdeutsche Rundfunk in 1951),[251] and new festivals launched. In 1946, the Donaueschinger Musiktage [Donaueschingen Festival], which under the Nazis had become 'a celebration of Germanic festive and folk music',[252] was relaunched with a new focus on international contemporary music; the same year saw the establishment of the Darmstadt Summer School. By the early 1950s, the Internationale Ferienkurse für Neue Musik Darmstadt had become the most important annual meeting place for composers and theorists working in the musical avant-garde. The name of the town has been synonymous with post-war serialism ever since.[253]

In a movement that has been described as 'Webernism',[254] or the 'cult of Webern',[255] the Darmstadt avant-garde became briefly obsessed with the composer. He became a symbol of the New – somewhere between prophet and revolutionary. In *Die Reihe* 2, Stockhausen conveyed the sense that Webern represented both a historical juncture and a challenge to composers: 'One must create something quite different,

[249] Thacker (2007), 20-21. Thacker notes that modernist music was later also to become a symbol of the artistic freedom of the West during the Cold War.
[250] Ibid., 167.
[251] Later Westdeutsche Rundfunk (WDR). Herbert Eimert was the first director of the NWDR studio and composers like Stockhausen, Pousseur, Goeyvaerts, Ligeti and Kagel composed electronic works there.
[252] Thacker (2007), 77.
[253] On the history of the Darmstadt Summer School, see Borio and Danuser (2007), Grant (2001) and Thacker (2007).
[254] See Page (1995).
[255] Stravinsky uses this phrase in 1966. Stravinsky (1966), ix. Also quoted in 2.4.4. below.

individual, and must have a courageous spirit, if one wishes to write even one note "after Webern".'[256] Boulez's article on Webern in *Die Reihe* 2 is simply entitled 'The Threshold'.[257]

It was the abstract 'purity' of Webern's serial manipulations in his late instrumental works that appealed most to the post-war avant-garde and seemed to anticipate their own aesthetic concerns so closely.[258] His late serial structures are extraordinary for their concentration, precision and logical consistency, and the internal symmetries and other properties of the rows are typically exploited to elegant effect. His serial scores were (and are) very rewarding to analyse – the enduring appeal of uncovering 'hidden codes' should not be underestimated – and composers would even copy them out by hand.[259] The composer Friedrich Cerha describes being at Darmstadt in the 1950s:

> Webern's treatment of the material, his structural thinking, was the centre of the analytical investigations. With fevered brows we sat around the scores of the late works and everyone made it his ambition to discover new analogies and symmetries and to record them in number tables.[260]

The results can be seen in articles like Armin Klammer's analysis of the third movement of the Op. 27 Piano Variations in *Die Reihe* 2, with its extensive number tables.[261] Webern's works offered a model of rational structural integrity and also appeared to possess an attractively deterministic dimension: Boulez claimed Webern wrote works 'whose form arises inevitably from the given material'.[262] The apparent fragmentariness of his gestures led to the notion that he had written essentially 'pointillist' music.[263] Boulez praised this economical approach: 'Throughout his work

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[256] Stockhausen (1959), 38. [1955 German edition, 43.] Stockhausen edited *Die Reihe* 2 with Eimert.
[257] Boulez (1959).
[258] Webern first used twelve-note rows in his *Three Traditional Rhymes*, Op. 17, and applied the technique consistently from Op. 20 onwards. See Shreffler (1994b).
[259] The composer Daniel Wolf remembers doing this. Wolf (2007).
[260] 'Weberns Materialaufbereitung, sein Strukturdenken stand im Mittelpunkt der analytischen Untersuchungen. Mit heißen Köpfen saßen wir über den Partituren der späten Werke und jeder setzte seinen Ehrgeiz darein, neue Analogien, Symmetrien zu entdecken und in Zahlentabellen zu dokumentieren.' Cerha (2001), 170.
[261] Klammer (1959).
[262] Boulez (1952), 22. See Boulez (1991), 8, for similar views.
[263] In German: 'punktuelle Musik'.

one senses an urge to reduce the articulation of the discourse as far as possible to pure serial functions', he wrote.[264]

These traits were seen as legitimizing early 1950s experiments with 'total', 'integral', 'generalized' or 'multiple' serialism, which expanded the serial principle outwards towards the incorporation of all musical parameters.[265] In Boulez's *Polyphonie X* (1951) for 18 instruments and *Structures I* for two pianos (1952), pitch, duration, dynamics and timbre are all determined according to precompositional schemes, in accordance with their composer's desire to 'unify and universalize the theoretical principle of the series'.[266] Webern's timbral innovations – for instance what Ernst Krenek referred to as the 'unheard-of timbres' of Opp. 5 and 6 – were seen as anticipating 'the otherworldly phenomena of electronic media', offering further proof of his radicalism.[267] Although Webern did not actually write any electronic works, M. J. Grant relates that visitors to the NWDR studio in Cologne were played Webern as well as Cage, Varèse, Boulez and Pousseur.[268]

The point of such extreme systemization, in Boulez's mind, was to purge his music of all traces of convention, to create something entirely new. Webern had gone much further in this respect than Schoenberg, whose 'contradictions and discrepancies' – such as using twelve-note rows within older, tonal-derived forms, or continuing to mark primary and secondary lines on his scores[269] – Boulez attacked in his polemical essay of 1952, 'Schönberg is dead'.[270] As Robert Craft later reflected, the early 1950s generation were 'much more interested in Webern than they were in Schoenberg. Because there was something old hat about Schoenberg. […] One felt that there was this old Vienna, and it's stale, and there was something abstract, newer'.[271] Traditional categories like melody and harmony remain obviously relevant to Schoenberg and Berg, but in Webern they appeared to have been dispensed with. Boulez was quick to point out that, unlike Schoenberg, Webern did not mark primary and secondary voices on his

[264] Boulez (1991), 173.
[265] See Grant (2001), 6 for a discussion of the terminology.
[266] Boulez (1991), 235.
[267] 'Hier werden zum ersten Male jene wahrhaft unerhörten Klänge hörbar, mit denen Webern schon 1909 die außerweltlichen Phänomene des elektronischen Mediums vorahnt.' Krenek (1957), 304. For a similar view on Webern's anticipation of electronic music, see also Eimert (1959), 35.
[268] Grant (2001), 104.
[269] Marked 'H' (Hauptsatz) and 'N' (Nebensatz) respectively.
[270] Boulez (1952), 21-22.
[271] Craft (1997).

scores.[272] This outward lack of thematicism was seen as a sign of Webern's inner consistency: at the very opening his Op. 27 analysis in *Die Reihe* 2, Armin Klammer declared thematic structure 'something quite foreign to serial thought, and […] nothing to do with Webern's personal achievement'.[273] Instead, Boulez wrote that Webern created 'relations between polyphonies conceived as fixed distributions of sounds in the available sound space',[274] eradicating the differences between horizontal and vertical by distributing twelve-note rows across both axes (linearly and as chords), creating a new 'weightlessness'.[275]

The 'pure' structures of Webern's works meant his music was seen as objective and universal – an idea recurring continually throughout the articles in *Die Reihe* 2. Christian Wolff wrote: 'It is expressive only of itself: hence it may extend and penetrate infinitely; it need have no extra-musical (historical, literary, psychological, dramatic, etc.) reference'.[276] Eimert spoke in geometric, architectural terms: 'Webern's music is hard and thin, clear and exact […] – not distilled from the volatile fumes of the *espressivo*, but comparable much more to the finesse and Apollonian strength of the wire mobiles found in plastic art'.[277] And Stravinsky's famous foreword to the volume memorably describes Webern's works as 'diamonds':

> Doomed to total failure in a deaf world of ignorance and indifference he inexorably kept on cutting out his diamonds, his dazzling diamonds, the mines of which he had such a perfect knowledge.[278]

A strong ascetic and religious current underlay this veneration: Boulez wrote in 1958 of an 'obscure monk, this Webern working away in silence, indifference, and a total absence of scandal',[279] while in 1955 Stravinsky described him as 'a perpetual Pentecost for all who believe in music'.[280] Dieter Schnebel's 1952 article on Op. 27 is a remarkable meditation on listening that reflects the almost mystical reverence in which the composer was held at this time.[281] Webern's vocal works, which make up roughly half his oeuvre, were virtually ignored by the Darmstadt avant-garde, probably because

[272] Boulez (1991), 198-99.
[273] Klammer (1959), 81. [1955 German edition, 85.]
[274] Boulez, (1991), 8.
[275] Ibid., 17.
[276] Wolff (1959), 61. [1955 German edition, 66.]
[277] Eimert (1959), 32. [1955 German edition, 37.]
[278] Stravinsky (1959), vii. [1955 German edition, iii.]
[279] Boulez, (1991), 218.
[280] Stravinsky and Craft (1960), 103-05. Quoted in Straus (2003), 301 n.12.
[281] Schnebel (1984).

their overt use of texts – by poets like Trakl, Rilke and Stefan George as well as his close friend Hildegard Jone – made the claim that Webern's music was 'expressive only of itself' difficult to defend. Their very existence also seemed to contradict the notion that Webern's music was athematic and abstract. As M. J. Grant writes, 'The referentiality, the familiarity of the human voice' was 'profoundly problematic for the serial aesthetic. […] [T]he avoidance of thinking in voices was a primary concern for serialism.'[282] Though short-lived, this 'cult of Webern' had a very great impact on subsequent reception of his music – and on performances.

2.2.3. 1956 and 1957: The first recordings of Boulez and Craft

Without a doubt, the two most important figures in the history of Webern performance to date are Pierre Boulez and Robert Craft, both of whom began to conduct Webern during the 1950s. Boulez began conducting the Domaine musical in 1954, a new music concert society he had founded that year. He later said that the younger generation needed someone to replace the aging Hermann Scherchen and Hans Rosbaud in order to 'do justice' to new music, 'which' – after all – 'was our own'.[283] Webern's music was frequently performed in Domaine musical concerts and live recordings from their 1956 season – of the Opp. 8 and 13 songs, Op. 21 Symphony and two Cantatas, Opp. 29 and 31[284] – were commercially released, now reissued on CD.[285] These performances took place before Boulez's debut with an international symphony orchestra in December 1957[286] and are the works of a conductor very much in the first phase of his career.

Between 1954 and 1956, the young American conductor Robert Craft, who was also involved with the Domaine musical,[287] dedicated himself to recording all the opus-

[282] Grant (2001), 200.
[283] Boulez (1976), 72. The interviews were conducted in 1972.
[284] The soprano in Opp. 8 and 13 was Jeanne Héricard, in Opp. 29 and 31 Ilona Steingruber. The bass in Op. 31 was Xavier Depraz. Opp. 8, 13 and 21 were likely recorded at the Petit Théâtre Marigny in Paris between 22 and 26 March 1956. See Griffiths (1996).
[285] 'Pierre Boulez: Le Domaine musical vol. 2, 1956-1967', 4CD set, Accord 476 8862. The set also contains a 1957 recording of Hans Rosbaud conducting the Six Pieces, Op. 6 and a 1961 recording of Yvonne Loriod playing the Piano Variations, Op. 27. See discography for original release details.
[286] See Griffiths (1996).
[287] Craft (1997): 'In the first years, I knew Boulez quite closely, and I conducted in the Domaine musical, and did the first Cantata of Webern, and the second.'

numbered works of Webern.[288] His recordings were released by Columbia in 1957 as a four-LP set.[289] Before this, fewer than half of Webern's 31 works with opus numbers had ever been recorded and the Three Songs, Op. 18, had not even been previously performed, making Craft's recording a premiere. The recordings were made under far from ideal conditions. According to Craft, only four or five Webern scores were in print at the time, so he had to transcribe and transpose all the parts from photostats of the original manuscripts, in Webern's handwriting. He used musicians employed by Hollywood film studios – professionals, but not new music specialists[290] – and had to persuade them to rehearse for free. He describes travelling between musicians' houses to rehearse each player individually 'until he had learned his part like a cipher'.[291] Sometimes, he had to borrow Stravinsky's car.[292]

In fact, without his close friend Stravinsky, Craft could not have made his Webern recordings at all. They were made in the spare studio time left over from Stravinsky recordings[293] and the composer sat in the control room throughout the recording process. Crucially, Stravinsky tells us that Craft did not employ a musical or engineering supervisor for the Webern recordings. Thus: 'Not only the musical performance […], but every aspect of the production as well was the responsibility of the conductor.'[294] Whether Stravinsky himself assisted directly with any aspects of the recordings is not clear, although he did exert plenty of indirect influence. Craft claims that Stravinsky would sometimes refuse to record his own works unless Columbia allowed them a few extra minutes for the recording of Webern.[295] Craft took credit for introducing him to Webern's music in the early 1950s, which, he says, inspired him to begin composing serially and was 'the turning-point of his later musical evolution'.[296] According to Joseph N. Straus, the intricate canons and focus on small motivic cells in

[288] The Craft set also contains Webern's Bach Ricercar orchestration and the pre-opus Quintet for String Quartet and Piano (1906).
[289] 'The complete music of Anton Webern recorded under the direction of Robert Craft'. Columbia K4L-232. Released in 1959 in Britain on Philips L 09414-7. Re-released on mp3 in 2009 (Naxos Classical Archives 9.80271-3).
[290] One of his sopranos, Marni Nixon, later sang the main roles in the screen versions of *West Side Story* (1961) and *My Fair Lady* (1964).
[291] Stravinsky and Craft (1972), 95. See also Stravinsky (1966), xv.
[292] Craft (1997).
[293] The Stravinsky recordings are available on Sony Classical 88697103112 (2007).
[294] Stravinsky (1966), xxvi.
[295] Craft (1997).
[296] Craft (1984), 251-53, reprinted in Craft (1992), 38-39. Quoted in Straus (2003), 149. See also Craft (1957). For more on the connections between Webern and Stravinsky, see Pousseur (1972).

Webern's late works fascinated Stravinsky, while their non-developmental character appealed to his taste for static forms.[297] Stravinsky shared the avant-garde view of Webern as a 'threshold': unlike the traditionalist Berg, he said, Webern had 'bequeathed a whole foundation, as well as a contemporary sensibility and style'.[298]

Upon its release, the Craft Webern set was lauded as pioneering by critics. *High Fidelity* called it 'one of the major monuments of modern discography',[299] while *The American Record Guide* applauded Columbia for promoting a composer still 'quite unknown to the mass audience'.[300] Columbia was a major label and the recordings made Webern's music available to many who had never heard of it before, or who had known it only through scores. The *Musical Quarterly* reviewer noted that

> [A] more fortunate choice [of composer] could not have been made, for his scores present exceptional difficulties to the average performer, and at any time, they require realization in sound perhaps more than any others, because while they are visually simple, they stubbornly resist the auditory imagination.[301]

Craft's Webern set was not unanimously praised, however. *Gramophone* remarked on 'a certain dryness and lack of sensuousness, partly in the recording and partly in the performances themselves',[302] while Humphrey Searle commented that the performances, 'though very competent indeed, tend to lack poetry and atmosphere'.[303] The performance style and sound of the Craft set will be discussed more fully in due course. For now we may note that, despite its perceived shortcomings, it remains one of the most important sets of recordings ever released. It reflected a distinctive vision of Webern at a particular time and played a decisive role in popularising his music, which continued to strengthen its hold on the repertory after the 1950s.

[297] Straus (2003), 155.
[298] Stravinsky and Craft (1959), 71-72. Quoted in Whittall (2003), 42.
[299] Frankenstein (1957), 64.
[300] Skulsky (1957), 118.
[301] Lippmann (1958), 416.
[302] Noble (1959), 307.
[303] Searle (1958), 159.

2.3. 1960s and 1970s: Institutional modernism

2.3.1. Webern enters the repertory

In the 1960s and 1970s, the avant-garde came to assume a position of cultural dominance, reflected by its grip on institutions. Public-service broadcasters like the BBC and WDR continued to promote new music and the Darmstadt Summer School, held annually until 1970 and every two years thereafter, continued to serve as an important forum for composers like Berio, Feldman, Ligeti, Nono, Stockhausen and Cage. IRCAM (Institut de Recherche et Coordination Acoustique/Musique), founded by Boulez in 1970 and opened in 1977, continued to work within the modernist paradigm of music as quasi-scientific research.[304] Although the compositional avant-garde had greatly diversified by this point, composers were still trained in serial techniques. This period also saw the establishment of the new academic disciplines of music analysis and music theory, with the founding of the *Journal of Music Theory* in 1957 and *Perspectives of New Music* in 1962. Serial analysis took on an increasingly mathematical bent in East Coast US universities, particularly through the work of Babbitt at Princeton, while Allen Forte developed pitch class set theory to analyse the pitch structures of the pre-serial, atonal works of the Second Viennese School.[305] Despite its cultural dominance, audiences for avant-garde music remained for the most part small. This was the age of the composer as elite research specialist, his (normally his) work isolated from the public at large – a practice Babbitt justified in the notoriously titled article 'Who cares if you listen?'[306]

As the avant-garde became part of the establishment, Webern became a staple of the modernist canon along with Schoenberg, Berg and Bartók. Still revered in academic circles primarily as a structural innovator, his works were subjected to a multitude of analyses; the Op. 27 Piano Variations was an enduring theorists' favourite.[307] His music also began to attract a growing number of performances. In 1973, the complete works were performed in Paris and in 1978, the London Sinfonietta, directed by David

[304] On the formation of IRCAM, see Born (1995), 53.
[305] Forte (1973).
[306] Babbitt (1958). The title was editorial; Babbitt originally called it 'The composer as specialist'.
[307] See Chapter 5 for references to Op. 27 analyses.

Atherton, curated a joint Schubert and Webern festival in London.[308] Boulez carried on conducting the orchestral works regularly[309] and he and Craft made several more Webern recordings.[310]

The number of commercial Webern recordings increased steadily over the 1960s and 1970s. The Juilliard Quartet released more recordings of Opp. 5 and 9 in 1961,[311] joined in 1971 by two sets of the complete Webern string quartets (Opp. 5, 9 and 28) by the Quartetto Italiano and the LaSalle Quartet.[312] A number of recordings of the small-scale works for violin or cello and piano (Opp. 7 and 11) and the Op. 27 Piano Variations appeared over this period.[313] Rather fewer recordings were made of the solo vocal works, although a live 1956 recording of Opp. 4 and 23 (plus 27) was released in 1957[314] and recordings of Opp. 8 and 16 appeared in the early 1970s.[315] A Second Viennese School set was released on Electrola in the 1960s containing many Webern performances, including numerous songs sung by Dorothy Dorow.[316] Another Domaine musical recording of the Op. 13 songs alongside Opp. 10 and 24 was released in the 1960s.[317] The choral works were also re-recorded by Günter Wand in 1962 (Op. 29),[318] Boulez in 1966 (Opp. 26, 29 and 31)[319] and Clytus Gottwald in the late 1960s (Opp. 2 and 19).[320]

2.3.2. The Darmstadt backlash

These new recordings offered a range of alternatives to the Craft set, which had begun to attract growing criticism. Initially, this came mainly from former members of the Schoenberg Circle, who protested that the post-war avant-garde had profoundly

[308] See Griffiths (1979) for a review of the Schubert/Webern festival.
[309] See Griffiths (1996) for a complete list.
[310] For example Craft's 1959 recording of the string orchestra version of Op. 5 (Columbia MS 6103) and Boulez's 1967 recording of Op. 6 on Melodiya C90 18745.
[311] RCA Victor LM/LSC 2531.
[312] Philips 6500 105 and DGG 2720 029.
[313] See discography for examples.
[314] Ethel Semser (soprano) and Paul Jacobs (piano). Barclay 89 005.
[315] Erika Sziklay (soprano), Budapest Chamber Ensemble, conducted by András Mihály. Hungarotron SXLP 11385.
[316] 'Schönberg, Berg, Webern: Die Neue Wiener Schule'. Contains Webern's Opp. 3, 4, 6, 7, 11, 12, 20, 23, 25 and 29. Electrola C 063 28368-71.
[317] Gilbert Amy (conductor), Liliana Poli (soprano), Orchestre du Domaine musical. Production Disques Adès 15007, 12008, 16020 and 17003.
[318] Nonesuch H 71192 (1968).
[319] Stradivarius STR 10029 (1966). Choir and orchestra of the ORTF.
[320] Wergo 60026 and reissues (1967 or 1970). Stuttgart Schola Cantorum.

misinterpreted Webern. Reviewing the Craft set in 1960, Willi Reich wrote that the 'elevation of Webern' by the 'young serialists' was 'mostly derived from analyses of a few works undertaken with preconceived opinions and from the adoption of a few buzzwords that do not come from him'.[321] In 1964, Steuermann described performances of the time as 'much too rigid'.[322] In 1972, Searle said the Craft set 'doesn't really reflect Webern's intentions. All the notes are there indeed, but the connection between them is not always brought out'.[323] Adorno saw in it 'the most subtle examples of senselessness through missed links'.[324] The same year, Stadlen singled out Leonard Stein's metronomic recording of the work on the 1957 Craft set for particular criticism, saying that Webern would have found it a 'caricature' of his music,[325] while Kolisch said Craft's recordings presented a 'false picture' of Webern: 'The fault consists simply in the fact that Webern's actual quality, his espressivo, is not apparent there.'[326]

Many of these former Schoenberg School musicians worked within the institutional structures of post-war new music – Adorno, Kolisch, Leibowitz, Steuermann and Stadlen all lectured at Darmstadt during the late 1940s and 1950s – but important aesthetic differences existed nonetheless between them and the younger generation. For those who had known Webern in Vienna before the war, he was a lyricist and contrapuntalist, but the post-war avant-garde rejected such traditional notions, preferring instead to talk of 'points', 'blocks' and 'matrices'. Although in the sleeve note to his Webern set, Craft deliberately distanced himself from those composers who later copied Webern's style – the 'mechanical so-called Webernites, who do not write to satisfy their own ears and therefore satisfy no-one else's'[327] and stressed the aural dimension of Webern's music – the style of performances on the Craft set recordings (and those by Boulez in the 1950s) arguably fits in rather well with the abstract vision of Webern built up by the avant-garde. In Craft's and Boulez's recordings, the articulation of notes tends to be relatively detached and timbres tend to be bright. Tempi are fast (especially in Craft's case) and rather metronomic, and

[321] '…die Berufung auf Webern zumeist auf der nach vorgefassten Meinungen unternommen Analyse einiger weniger Werke und aus der Übernahme einiger nicht von ihm herrührender Schlagworte abgeleitet wird.' Reich (1960), 320.
[322] Schuller (1964), 28.
[323] Searle (1972).
[324] Adorno (2006), 149.
[325] Stadlen in Pauli (1984), 280.
[326] 'Der Mangel besteht eben darin, daß Weberns eigentliche Qualität, sein Espressivo, dort nicht erscheint. […] Das gibt ein falsches Bild.' Kolisch in Pauli (1984), 252.
[327] Craft (1957b), 9-10.

dynamic gradations underplayed. In keeping with the idea that it was the serial specifications governing each individual note that mattered, notes tend to be performed as though each one were an independent, self-sufficient event. As Martin Zenck wrote in 1983, later 'pointillist' serialists:

> [N]o longer understood dodecaphony as a system of relationships between tones, as the Second Viennese School did, but aimed for a complete, comprehensive definition of the isolated tone incorporating all parameters.[328]

Zenck describes an 'Entsemantisierung' – which may be translated as 'desemantification', or a purging of the semantic aspects of meaning – in the musical language of the 1950s, which he saw as closely linked to 'a misunderstanding of the compositions of Anton Webern'. Friedrich Cerha described the general sound of Webern in the 1950s as characterised by fast tempi (mostly quicker than indicated in the score, particularly in the slow passages), with great emphasis laid on rhythmic precision and correct dynamics, but comparatively little on phrasing and articulation, while ritardandi and pauses were, according to Cerha, 'barely audible'. Webern had to sound as uniform as possible – uniformity being a central characteristic of the 1950s serial aesthetic:

> [T]he expressive representation of single elements was frowned upon, since it distinguished each from the others and set them in relief in those places where one wanted to have events evenly distributed in space. But this did not apparently disturb many people, rather it moved listening behaviour closer to the mode in which one was used to recognising serial compositions from the mid-1950s and also demonstrated sonically that Webern was the father of the serialists.[329]

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[328] 'Die [...] Entsemantisierung der musikalischen Sprache in der Avantgarde-Musik der fünfziger Jahre hing unter anderem mit einem Mißverständnis der Kompositionen Anton Weberns zusammen: sie wurden als legitimierende Vorläufer des späteren punktuellen Serialismus verstanden, der die Dodekaphonie nicht mehr wie die Zweite Wiener Schule als ein System von Tonbeziehungen auffaßte, sondern auf die vollständige, alle Parameter umfassende Definition des isolierten Einzeltons zielte.' Zenck (1983), 191.

[329] 'Die Tempi waren sehr schnell und hastig, die langsamen zumeist rascher als vorgeschrieben, auf rhythmische Präzision und korrekte Dynamik wurde großer Wert gelegt, wenig dagegen auf Phrasierung und Artikulation, auf Darstellung der Periodik. Die für die formale Gliederung so wichtigen ritardandi wurden so wenig durchgeführt, dass man sie hörend vielfach kaum registrierten konnte, Fermaten und Zäsuren wurden nur angedeutet. Das alles ließ formal-analytisches Hören allzu leicht umschlagen in global-strukturelles Hören, zumal auch expressive Darstellung des Einzelelements eher verpönt war, weil sie etwas vor anderem hervorhob, weil sie dort reliefierte, wo man gleichmäßig im Raum verteilte Ereignisse haben wollte. Aber das störte offensichtlich viele nicht, rückte es doch das Hörverhalten in die Nähe jenes, mit dem man die seriellen Kompositionen aus der Mitte der Fünfzigerjahre zu apperzipieren sich gewöhnt hatte und demonstrierte damit auch klanglich, dass Webern der Vater der Seriellen war.' Cerha (2001), 170-71.

That the aesthetic differences between pre-war Vienna and post-war Darmstadt went along with very different conceptions of what a 'correct' Webern performance style was becomes very clear when one compares the recordings of Leibowitz (a former Webern pupil, it should be remembered) with those of Craft and Boulez. Although they were only made three or four years apart, Leibowitz's recording of the second 'sehr schwungvoll' movement of the Op. 22 Quartet (recorded in 1950 or 1951) [Example 6 and Audio 14] is completely different to Craft's (recorded in 1954) [Audio 15]. Leibowitz's ensemble takes the movement quite slowly (minim = ca 70 at the opening, as opposed to ca 108 in the score), shaping and segmenting it into gestures of five or six or more notes shared between instruments. The movement's 'schwungvoll' (lively, jaunty) character is communicated through playful imitation between the instruments, nuanced with subtle timbral inflections, and there is a strong rhythmic drive and sense of forward propulsion. Craft's ensemble take the movement considerably faster and their opening tempo (minim = ca 104) is closer to that given in the score.[330] While not entirely lacking in nuance, the performance is more undifferentiated than Leibowitz's: colours tend to be quite uniformly bright, note onsets are sharp and the music is parsed predominantly into one- and two-note units. The sense of forward motion is weaker, too: the music seems almost suspended in space. The connection between this kind of performance style and the idea of Webern's music as a pure, static, geometric construction is surely significant: the differences between the meaning of Webern's music as perceived by the Schoenberg School on the one hand and the avant-garde on the other are played out in their performances.

For critics of the avant-garde like Peter Stadlen, however, the ascetic style of Craft represented a profound misinterpretation of Webern's music, as he argued on many occasions from the late 1950s onwards.[331] For Stadlen, it simply contradicted his memories of the composer, who, he recalled, was far more concerned with musical expression than this. He makes this clear in a 1958 description of the period he spent studying the Piano Variations with Webern in preparation for the premiere:

> For weeks on end he had spent countless hours trying to convey to me every nuance of performance down to the finest detail. As he sang and shouted, waved his arms and stamped his feet in an attempt to bring out what he called the

[330] It is interesting that while Leibowitz's performance might be closer to the Schoenberg School tradition, Craft's tempo follows the score more closely.
[331] Stadlen (1958a, 1958b, 1959, 1961a, 1961b, 1972, 1979), plus Stadlen in Pauli (1984).

> meaning of his music I was amazed to see him treat those few scrappy notes as if they were cascades of sounds. He kept on referring to the melody which, he said, should be as telling as a spoken sentence. This melody would sometimes reside in the top notes of the right hand and then for some bars be divided between both left and right. It was shaped by an enormous amount of constant *rubato* and by a most unpredictable distribution of accents. But there were also definite changes of tempo every few bars to mark the beginning of a "new sentence".[332]

In 1979, Stadlen released a 'performance score' of Op. 27 [Example 7]: a facsimile version of his copy of the published score with extra expression markings (including circles around the 'melody notes' to be brought out by the pianist) and verbal annotations. Some of these were pencil marks made directly by Webern during their coaching sessions; others were remembered and added afterwards by Stadlen.[333] The verbal annotations over certain passages are often very emotionally evocative: the opening phrase of the first movement is marked 'verhaltener Klageruf' [suppressed lament] and the final phrase 'letzter Seufzer' [last sigh]. The first movement as a whole is marked with the words 'kühl leidenschaftliche Lyrik des Ausdrucks' [coolly passionate lyrical expression] and the instructions 'molto espressivo' and 'frei improvisatorisch' [freely improvisatory] appear.

Some of Webern's markings in the performance score are apparently irrational, such as the crescendo-decrescendo hairpins (<>) on single notes in bars 2 and 3 of the first movement – a common marking in Schoenberg, too.[334] Talking of how to interpret these hairpins, the pianist Peter Hill remarked:

> You *can* do things like starting with no pedal at all, and then putting the pedal down to change the sound, but one knows what he means, and if you can hear it in your head you can translate it into terms of timing and balance to get the desired effect, even if the marking itself is impossible.[335]

One could also attempt to realize these gesturally. As Neil Heyde, cellist of the Kreutzer Quartet, says, with 'something like a hairpin crescendo on one note, just the *slightest* lean forwards is something the audience reads. It's not something you can pull off on a disc'.[336] Such physical gestures cannot be heard directly in recordings, as Heyde says, but their sonic results can. Stadlen's 1948 performance of the Op. 27 Piano Variations,

[332] Stadlen (1958a), 12.
[333] UE 16845.
[334] Webern's 'irrational' notation is explored further in Chapter 3.
[335] Hill et al (2003), 27.
[336] Personal interview, 2007.

recorded (of all places) at the Darmstadt Summer School, paints a vivid picture of how Webern wanted the movement to be played.[337] As can be heard in the recording of the first movement [Audio 16], the performance is heavily garnished with constant, extreme rubato and marked with sudden dynamic outbursts, with a heavy use of sustaining pedal. Intensity of expression is privileged above pitch and rhythmic accuracy: some passages might be considered somewhat 'messy' by the exacting performance standards of today (although it should be remembered the performance is live and unedited).[338] Both the recording and the performance score offer persuasive evidence that the kind of performance style Webern conceived for the Piano Variations was similar to his own performance style as a conductor as discussed in Chapter 1: free, rubato-laden and (by later standards) exaggeratedly rhetorical.

Another prominent Schoenberg School critic of the avant-garde performance style was Theodor W. Adorno. In his notes for a planned book on performance with Kolisch,[339] Adorno talks in terms familiar from the previous chapter – of speech-like phrasing, of 'organic' relationships, of 'sense' and 'coherence'.[340] He criticised the avant-garde serialists for their 'fetishism of the material';[341] however, he saw Webern's late works as guilty of this row fetishism, too, and criticised the inaudibility and apparent mathematical inevitability of their serial constructions. The Op. 27 Piano Variations and the Op. 28 String Quartet were for Adorno 'nothing more than monotonously symmetrical presentations of serial marvels'.[342] These works therefore presented performers with a conundrum: because their underlying constructive relationships were, he argued, basically inaudible, they could not be communicated

[337] Op. 27 formed part of a concert given by Stadlen on 31 July 1948, after Schoenberg's Five Pieces Op. 23 and before a piece *Kubiniana*, Ten Pieces, Op. 13, by Hans Erich Apostel. Borio and Danuser (1997, eds.), 53. It was, in fact, the first German performance of Op. 27. The recording was released in 1996 on the 4CD set '50 Jahre Neue Musik in Darmstadt' (Col Legno WWE 31893), though it had circulated in a limited way before this and was in the British Library Sound Archive for several years before its commercial release (BLSA Tape M5645). It is discussed further in Chapter 5.

[338] According to his nephew Anthony Stadlen, Peter told him 'in the late 1960s or early 1970s that he had not known until then that there was a recording of the performance, but that he had now heard it and it was "very good"; there were, he said, some mistakes, but it was "rich" and full of meaning and poetry.' (Personal communication, 2010).

[339] Adorno (2006).

[340] The idea of music as analogous to language is a prominent feature of Schoenberg School thinking and resounds with Webern's comment to Stadlen, quoted above, that the melody must be 'as telling as a spoken sentence'.

[341] Marcus Zagorski defines 'Materialfetischismus' as the 'fetishism of compositional means over sounding result'. Zagorski (2005), 682.

[342] Adorno (2006), 86.

expressively to the listener. The task of trying to make the work 'make sense' therefore became an impossible one – although one the performer had to take on anyway, as though to flaunt its futility. The following passage on the Piano Variations can be read as a call for extreme rubato – the kind of rubato, in fact, that can be heard in Stadlen's recording[343] – as a kind of wild but tragically fruitless attempt to lend the music some meaning:

> It passes judgement on this music that, for its performance to give the monotonous tone groups even the shadow of meaning, it must distance itself infinitely far from the rigid notation, especially of its rhythm, whose aridity is for its part dictated by the serial animism and thus is an aspect of the matter itself.[344]

To a large extent, Adorno's views on musical performance are more heavily theorized versions of Stadlen's. Stadlen was also rather ambivalent about Webern's late serial works, including Op. 27, and came later in life to object to serialism on principle. 'All dodecaphonic works', he wrote, 'are bound to contain […] a measure of serial irrelevancy', that is, 'decisions that the composer has taken not on aesthetic but on serial grounds'.[345] He also argued that the kind of behaviour required of the listener was unrealistic. According to a 1954 *Musik im Geschichte und Gegenwart* article on modern German music, serial music required very active listening:

> What we hear is only single notes, high and low, first faster, then at a slower rate, and from time to time a glissando or a harmonic tone. These do not constitute the work's meaning, but are merely symbols that we have to put together to make the whole. This kind of music requires a much more active participation from us as listeners. We experience to a certain extent only the material: the form has to be worked out.[346]

But for Stadlen, it was unreasonable to expect the listener to make these abstract formal connections, especially with no help from the performer. Commenting on the idea that Stockhausen's music required 'complex' listening, Stadlen observed pithily that often

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[343] Adorno was not at Darmstadt in 1948, but it is possible that he heard him play it on another occasion. It is intriguing to speculate whether this opinion was based on performances of the work Adorno had actually heard, or more on a general knowledge of the performance-stylistic tradition. In a letter of 7 November 1937, in response to a request from Adorno for 'analytical details' [analytischen Angaben] about the Variations, Webern enthusiastically suggested that Adorno (who was in New York by this point) instead make contact with Stadlen as a way of getting the 'living impression' [den lebendigen Eindruck] of the then-new work, as he found the analytical information so hard to set down on paper. I do not know whether Adorno ever took up the offer. The letter is reproduced in Metzger and Riehn (1983), 22.

[344] Adorno (2006), 87.

[345] Stadlen (1958a), 27.

[346] Laaff (1954). English translation in Day (2000), 179.

'the listening has to be more complex than is the music' and attacked what he saw as post-war serial music's replacement of 'such perfectly audible semantic connections as there are in Schoenberg' by 'inaudible mathematical kinships between parameters'.[347] Indeed, Timothy Day points out the remarkable similarity between the *MGG* entry quoted above and Webern's words to Stadlen, quoted in the previous chapter: 'A high note, a low note, a note in the middle – like the music of a madman!'[348]

We can see, then, that a tension existed between the representatives of pre-war Vienna and post-war Darmstadt with regard to their views of Webern, although most of the criticism was one-way (from the Vienna to the Darmstadt side). The avant-garde obsession with Webern may have been a brief phase, but it left a strong legacy, fuelling the preoccupation with Webern's scores among music theorists and – largely due to the wide distribution and huge influence of the Craft set – creating a new Webern performance-stylistic norm. The nonlegato, relatively brisk, 'pointillist' style of Boulez's and (especially) Craft's 1950s recordings arguably dominated the decade: other recordings such as the 1954 and 1957 Op. 27 recordings of Glenn Gould, for example, share the same stylistic hallmarks.[349] During the 1960s, however, the situation began to change.

2.3.3. 1978: The first Boulez set

By the 1970s, Boulez's view of Webern's music had decisively shifted. The consequences are audible in the Webern recordings he made between 1967 and 1972, which were eventually released in 1978 on CBS as a second 'complete Webern' set.[350] The Boulez CBS set contains recordings of Webern's complete works with opus numbers, plus the Bach arrangement and Webern's 1932 recording of Schubert's German Dances. Boulez worked with performers of the highest calibre (the London Symphony Orchestra and international soloists, including the soprano Heather Harper, the pianist Charles Rosen and the guitarist John Williams) and specialist contemporary music ensembles (the Juilliard Quartet and the John Alldis choir) and the set quickly became seen as a more definitive successor to the Craft collection, which was by this

[347] Stadlen (1961b). Stadlen also attacks indeterminate music in this radio talk.
[348] Stadlen (1958a), 12.
[349] On CBC PSCD2008 and Chant du Monde LDX 78799.
[350] 'Anton Webern: Complete Works Opp. 1-31', CBS Masterworks 79204 (4LP), CD reissue Sony Classical SM3K 45845 (3CD, 1991). The original set was described as 'volume one'. Volume two – including many non-opus works – was recorded, but not released.

point widely perceived as inadequate. In an article punningly-entitled 'Webern anew – Genius over Craft', the *New York* magazine reviewer criticised the Craft album's 'monstrous falsification of the sound – indeed, of the underlying aesthetic – of Webern's music'. The Boulez album, on the other hand, he called:

> [A] monument in every way. It postulates a manner of playing and of hearing this music that should banish forever – among believers and nonbelievers alike – the notion that structural exactitude in music is incompatible with emotional communication.[351]

Likewise, in a 1979 *Neue Zeitschrift für Musik* article, Wolfgang Burde saw the Boulez set as representing a new trend in Webern performance towards a more flexible, nuanced approach that nonetheless did not neglect structure:

> The Webern tradition of the 1950s, which insisted upon the utmost clarity of the musical structure and, often enough, executed the compositional levels of the metric-rhythmic relationship in a characteristically stiff and lifeless manner, is now being superseded by interpretations that let Webern's music breathe deeply again. […] [Boulez's] interpretations of the Passacaglia, the Orchestral Pieces and the Cantatas have definitely preserved throughout traces of all the 'structural' insights of the fifties. The gain in dynamic and tempo nuances, and in colour, is nonetheless unmistakable.[352]

The 1950s avant-garde had appraised Webern's music as 'pure' structure and so excised or sidelined its expressive dimensions in both their writings and performances, but, in writings of the 1970s onwards, one increasingly begins to encounter the idea that structural and expressive conceptions of the music could be combined without conflict or compromise. The Boulez set arguably represents a watershed moment in a wider evolution in Webern performance style, beginning in the 1960s and still continuing today, away from what Day describes as the ideal of 'absolute clarity and precision' and towards the portrayal of 'emotional intensity'.[353] According to Day:

> Performances of the orchestral music of Anton Webern in the 1950s, and especially of the works from the Symphony op. 21 onwards, emphasized the fragmentary nature of the music – the way it was constructed, the pointilliste

[351] Rich (1979).
[352] 'Die Webern-Tradition der fünfziger Jahre, die auf äußerster Deutlichkeit der musikalischen Strukturen bestand, die oft genug auch die kompositorische Schicht der metrisch-rhythmischen Beziehung eigentümlich starr und unbelebt exekutierte, wird nun durch Interpretationen abgelöst, die Weberns Musik wieder intensiven atmen lassen. [...] So haben seine [Boulez's] Interpretationen der Passacaglia, der Orchesterstücke, der Kantaten Spurenelemente jener „strukturellen" Interpretensicht der fünfziger Jahre durchaus bewahrt. Der Zugewinn an dynamischen und Temponuancen, an Farbe auch, ist indes unüberhörbar.' Burde (1979), 65.
[353] Day (2000), 180.

> nature of the instrumentation, with only a note or two or just a handful being allocated to a single instrument or part at a time – emphasized the exiguous textures and the wide range of pitches and the sudden dynamic contrasts, and presented a rather jagged, hard-edged profile. But gradually through the 1960s and 70s performances of late Webern began to emphasize continuities, to discover the lines that might be constructed from the flecks and flashes of different colours and timbres, and these later performances created soft, subtler, more flexible contours.[354]

That Boulez's late 1960s performances on the CBS set represented a sea change becomes clear when one compares them with his 1950s Domaine musical performances. For example, comparing his 1956 Domaine musical recording of the last movement of the Second Cantata, Op. 31, 'Gelockert aus dem Schoße' [Example 9 and Audio 17] with his 1969 CBS recording [Audio 18] reveals radical differences, most obviously in tempo. The choir of the Domaine musical take the movement at minim = 160 (comparable to the brisk minim = ca 168 written in the score), whereas the John Alldis Choir in 1969 take it at around minim = 112. At 1:23, the 1956 recording is nearly 50% faster than the 1969 recording, at 2:04.[355] While in 1956 the vocal parts are semi-staccato and sound rather aggressive – almost 'barked' out – in 1969 they are gently lilting and chorale-like. In Op. 31/6, each separate vocal part contains huge, rather unmelodic leaps, but taken together the parts produce a composite melody line – a kind of 'dispersed' lyricism. This linear counterpoint is much more audible in the slower 1969 recording. Boulez's 1956 tempo is closer to the score, however, just as Craft's tempo in the second movement of Op. 22 was closer to the score than Leibowitz's apparently more 'authentic' Schoenberg School interpretation.[356] This suggests two things. Firstly, it shows that Webern's tempi in Op. 22/2 and Op. 31/6 are rather fast compared to later performances (since Boulez and Craft's performances are faster than the norm).[357] Secondly, it indicates that Leibowitz and, by 1969, Boulez had strong alternative conceptions of how each movement should sound that led them both to completely ignore the written tempi. Indeed, the tempi on Boulez's Webern set are typically much slower than those of his 1956 performances and almost always slower

[354] Ibid., 178. Partially quoted in the Introduction.
[355] Craft's 1955 recording is even faster (around minim = 186) and lasts only 1:10.
[356] See n. 330 above.
[357] Indeed, they do seem unusually fast, given the kind of performance style we know he wanted. It is virtually impossible to sing the wide leaps in Op. 31/6 legato at minim = 168. Perhaps this is another instance of Webern making unrealistic demands. It is probably significant that he never heard the Op. 31 Cantata performed: it did not receive its premiere until 1950. See Moldenhauer (1978), 719.

than those on the Craft set.[358] Moreover, the lines are much more connected – Boulez builds lyrical melodies from the 'flecks and flashes of different colours and timbres', in Day's phrase – and the overall sound is softer, more flexible and more reverberant.

If Boulez's late-1960s recordings moved away from the 'pointillist' style of the 1950s towards a new style that might be called 'colouristic', then the word that probably best describes the recordings of Herbert von Karajan in the mid-1970s is 'romantic'. Karajan recorded some of the Webern orchestral works (Opp. 1, 6 and 21 plus the orchestral version of Op. 5) with the Berlin Philharmonic Orchestra in 1973 and 1974 and the recordings were first released in 1975 as part of a Second Viennese School 4LP set.[359] Coming from a conductor more accustomed to common-practice than avant-garde repertoire, Karajan's Webern recordings have a 'big' Germanic sound and strongly evoke the grand gestures of late romanticism. His timbres are rounder, more luxuriant and more string- and bass-heavy than Boulez's lighter, cooler and more piercing sounds. To some extent, this is because Karajan uses the revised 1928 orchestration of the Op. 6 score, with its reduced brass and woodwind, whereas Boulez uses the original 1909 version.[360] Comparing Karajan's 1973 recording of the second piece from the Op. 6 orchestral set [Audio 19] with Boulez's 1969 recording [Audio 20] reveals significant differences in tone colour, particularly from bar 15 onwards [Example 10]. Boulez's blaringly abrasive brass in bar 15 and squealing woodwind in bars 17 and 19-21 are considerably mellowed in Karajan, but the conventional string 'surge' gesture moving in unison from low to high strings in bars 15-16 is far more forceful in Karajan's recording. The Karajan recordings are also very reverberant, which blends and blurs together the instrumental lines. This applies especially to the Op. 6 pieces, which were recorded in the rich acoustic of the Jesus-Christus-Kirche in Berlin and have an almost four-second echo.[361] The reverberation and bass frequencies are enhanced by apparently distant miking, whereas in Boulez's recording the microphones sound as though they have been placed closer to the instruments, producing a more focused sound with more prominent high harmonics.[362]

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[358] See the average tempo study in Chapter 3.
[359] Deutsche Grammophon 2711 014 (4LP set) and various CD reissues (see discography).
[360] The revised 1928 version reduces the brass from 19 to 13 players and the woodwind from 13 to 9 players, and asks for one harp instead of two. The majority of available recordings use the revised version rather than the original 1909 orchestration.
[361] This was measured from the final loud chord of Op. 6 no. 2. Opp. 1, 5 and 21 were recorded at the Philharmonie in Berlin.
[362] The effects of reverberation and miking are discussed further in the following chapter.

Boulez and Karajan's recordings represent very different approaches to Webern – both in the way the performances are recorded and in the way they are played – but they are similar in their use of more overtly expressive gestures, relative to the pointillist approach of the 1950s. They can be seen as important milestones in a transition towards a more openly expressive range of Webern performance styles in the 1960s and 1970s – a development that has continued in the recordings made since 1980.

2.4. Post-1980: Postmodern performance

2.4.1. From foreground to background

The Webern centenary in 1983 inspired many concerts and two Webern festivals – one at the Venice Biennale and another in Vienna, organised by the International Webern Society.[363] This had been founded in 1962 by Hans Moldenhauer, a German émigré to the United States. From 1959, Moldenhauer had gathered a large collection of primary materials relating to the composer – many from Webern's eldest daughter Amalie Waller – and gradually released them over the next 25 years.[364] These included sketches, letters, arrangements and numerous previously undiscovered Webern works. Among these were student works – several songs, the String Quartet and Slow Movement [Langsamer Satz] for String Quartet of 1905 and the 1904 orchestral tone-poem *Im Sommerwind* – and unpublished mature works such as the Movement for String Trio (1925) and Cello Sonata (1914). The six festivals held by the International Webern Society – of which Moldenhauer was president – between 1962 and 1978 premiered many of these newly-unveiled works. Moldenhauer also published a string of books and articles on Webern,[365] culminating in the huge and exhaustive 1978 biography written with his wife Rosaleen, *Anton von Webern: A Chronicle of his Life and Work*.[366] After his death in 1984, the contents of his archive were transferred to the

[363] A Festschrift was produced for the Vienna festival. See Metzger and Riehn (1983). The International Webern Society existed from 1962 to 1990 and in 1978 had about 300 members. See [Anon] (1978).
[364] The non-opus works were catalogued by Hans Moldenhauer. The full list is of works, catalogued with an 'M' prefix, is available in Moldenhauer (1978), 697-750.
[365] Moldenhauer (1960, 1970).
[366] Moldenhauer (1978). Published in conjunction with the London Schubert/Webern festival.

Paul Sacher Stiftung in Basel, the Stadt- und Landesbibliothek in Vienna and the Library of Congress and made fully available to researchers from 1986.[367]

Moldenhauer's primary sources made an immense contribution to Webern scholarship, opening up many new avenues of enquiry and contributing to a wider shift in the focus of academic research that Kathryn Bailey in 1995 summarised as 'a gradual move from foreground to background' – that is from 'surface' analyses of pitch structures in the scores to biography, text and sketch studies.[368] The sources also helped to change the prevailing conception of Webern, building up a much more richly contextualised picture of the composer and revealing his intensely expressive concerns. The pre-opus student works, especially, made it abundantly clear that Webern's mature compositional style had developed directly out of his earlier, late-romantic one.[369] Recent Webern scholars such as Anne Shreffler have focused far more on the vocal works and their texts, previously rather neglected.[370] Shreffler writes that:

> Instead of portraying an intellectually driven genius who paves the way to a post-war avant-garde, Webern's songs, through their texts, can situate him in a quite different intellectual and cultural milieu that is only just beginning to be understood in connection with his music.[371]

Her 1994 studies of Webern's Opp. 15-17 songs[372] and Op. 14 Trakl songs[373] show through sketch analyses that the ways in which Webern composed serially developed directly out of his 'intensive preoccupation' with vocal settings of lyric poetry.[374] According to Shreffler, Webern's earliest rows:

> [G]rew out of concrete melodic gestures, a conception that remained potent for a long time. Later he approached the notion of an abstract row as he sought to realize the essence of the religious and folk poems that attracted him.[375]

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[367] See Bailey (1995), 646.
[368] Ibid., 645.
[369] See Cone (1967) for a direct response to the release of the juvenilia. Bailey (1991) conceives of Webern's serial music in terms of traditional forms such as sonata, variation and rondo, showing how Webern's music is so often 'old forms in a new language'.
[370] Shreffler, (1994b). Also Shreffler (1992, 1994a). Bailey (1991) also includes a section on the vocal works and half the articles in Bailey (1996, ed.) are devoted to them.
[371] Shreffler (1994b), 4.
[372] Shreffler (1994a).
[373] Shreffler (1994b).
[374] Ibid., 12.
[375] Shreffler (1994a), 280.

In vocal works, the text was the 'driving force' in Webern's compositional process: he would often begin writing using text and rhythms alone, with the pitches only coming later. The fundamentally vocal basis of his compositional style meant that he thought horizontally and linearly; even in the late instrumental serial works, Webern was principally concerned with lyrical melodies and paid little attention to vertical combinatoriality. Moreover, she also shows that his use of twelve-note rows could be strikingly unsystematic and argues that – contrary to his reputation in the 1950s – Webern was far from rigorously consistent in his organisation of the series.

A central idea in Julian Johnson's 1999 book *Webern and the Transformation of Nature* is that Webern, though 'constructed as one of the most abstract [composers] in the history of Western music, hardly ever wrote a piece of music which did not have, for him, significant extra-musical associations.'[376] According to Johnson, Webern's grief at his mother's death fed into a mystical, maternal ideal of God-in-nature found in much early twentieth century German art, conceived 'as the material revelation of the spiritual'.[377] This is expressed in Webern's music through an array of recurring but largely hidden musical topics, evidenced by the programmatic titles and autobiographical schemes in the sketches – invoking, for example, the names of his parents' gravesites and of the Alpine landscapes and plants of which Webern was fond – that underlie even the apparently 'abstract' late serial instrumental works such as Opp. 21, 22, 24 and 28.

This shift in the focus of Webern scholarship over the past 50 years or so from abstract formal construction to expressive meaning would probably not have been possible without Moldenhauer's source materials, although wider musicological trends such as the emergence in the 1980s of New Musicology – with its tendency to contextualize, suspicion of formal analysis and deconstruction of the idea of the 'self-sufficient' artwork – have undoubtedly also played a role. Musicologists now tend to believe that, as Johnson writes: 'Abstraction not only implies but positively requires some material reference from which it abstracts'.[378] But we should not just look within musicology to explain this shift. It is surely no accident that a parallel change can be heard in Webern recordings, which have also moved towards a more openly expressive

[376] Johnson (1999), 186.
[377] Ibid., 168.
[378] Johnson (1998), 273.

style since the early recordings of the 1950s. Nowhere is this clearer than in the new recordings by Boulez and Craft.

2.4.2. One more time, with feeling: The second Boulez and Craft sets

The number of Webern recordings commercially available has greatly expanded since the beginning of the CD era. Compilations of the orchestral works have been released conducted by Claudio Abbado, Christoph von Dohnányi, Giuseppe Sinopoli and Takuo Yuasa,[379] and of the string quartets and trio by the Arditti, Artis (twice), Emerson, Parisii, Neues Leipziger, Debussy and Schoenberg quartets.[380] A number of chamber music collections have appeared, some including works without opus numbers,[381] while the popular juvenilia have been widely recorded.[382] The Op. 27 Piano Variations have been extensively recorded, with over 30 commercial releases since 1980 by pianists such as Sviatoslav Richter, Peter Hill, Mitsuko Uchida and Stephen Hough.[383] Numerous solo song compilations have been issued,[384] but the vocal works still remain slightly under-recorded and the choral works very much so.[385] Many older Webern recordings were reissued on CD during the late 1980s and early 1990s, including the string quartet recordings by the LaSalle, Italiano and Alban Berg quartets[386] and the 1978 Boulez set.[387] Even the 1950s Craft set was reissued by Naxos in 2009 as a budget mp3 download.[388]

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[379] Deutsche Grammophon 431 774-2; Decca 444 593-2; Elatus 0927-49832-2 and Naxos 8.554841.
[380] Montaigne 789008; Sony Classical SK48059 and Nimbus NI 5668; Deutsche Grammophon 445 828-2GH; Accord 20164-2; Dabringhaus and Grimm MDG 307 0589-2; Harmonia Mundi HMN 91 1586 and Chandos CHAN 10083.
[381] For example Farao Classics B 108 001, Naïve NAI 782069 and Bis CD-1467. The latter includes the non-opus Webern works for cello and/or piano.
[382] For example, the Slow Movement is played by the Rosamunde Quartett on ECM 1629 CD 457 067-2. *Im Sommerwind* appears on Sinopoli's Webern orchestral works compilation (Elatus 0727-49832-2).
[383] Decca 436457; Naxos 8.553870; Philips 468033-2PH and Hyperion CDA67564.
[384] On Orfeo C411951A; Naxos 8.570219; Etcetera KTC2008; Deutsche Grammophon 437 786-2 and Capriccio C10862.
[385] A collection of Webern vocal works was released in 1989 including Opp. 2 and 19 (Koch Schwann 314 006 H1) and there have been other isolated commercial recordings of Opp. 2 (Carus 83.130) and 29 (Hänssler 93.060). The relative neglect of the vocal works may be due to their technical difficulty (see Chapter 6).
[386] Deutsche Grammophon 419994-2GCM4; Philips Classics 420 796-2PH and Teldec [8] 9031-76998-2 plus further reissues of selected works and movements (see Discography).
[387] Reissued on three CDs in 1991 (Sony SM3K 45845) and still widely available. It remains many people's first recorded introduction to Webern.
[388] Naxos Classical Archives 9.80271-3.

The most significant Webern recordings of the last 30 years, however, are the two new 'complete works' collections curated and conducted by Boulez and Craft. In 2000, on Boulez's 75th birthday, a second Boulez-Webern boxed set appeared on Deutsche Grammophon called 'The Complete Webern'.[389] Incorporating recordings previously released on the label throughout the 1990s,[390] it featured performances by the Berlin Philharmonic, Ensemble Intercontemporain and BBC Singers, the Emerson Quartet and prominent soloists such as the soprano Christiane Oelze and the pianist Krystian Zimerman. While the 1978 CBS set had contained Opp. 1-31 only (the Bach and Schubert arrangements excepted), the new DG set included many of the works without opus numbers as well, swelling it to 6 CDs. Robert Craft, now in his 80s, is also currently re-recording the complete works of Webern for Naxos (alongside those of Stravinsky and Schoenberg), to form the 'Robert Craft collection'. Two single-CD Webern volumes appeared in 2005 and 2009,[391] containing new recordings of all the opus-numbered works (and the Bach and Schubert arrangements) apart from Opp. 1-5, 9, 12, 23, 25, 28 and 29, which at the time of writing have not yet been released as the third volume. Players include the Twentieth Century Classics Ensemble and the Philharmonia Orchestra, the sopranos Jennifer Welch-Babidge, Tony Arnold and Claire Booth, the bass David Wilson-Johnson and the Simon Joly Chorale.

The new Boulez and Craft sets sound very different to their respective earlier recordings – Craft's most strikingly so. Digital recording technology means they are almost noiseless and dynamic ranges are larger. Acoustics also tend to be more reverberant (again, particularly in Craft's case). Both these aspects of the recording will be explored further in the next chapter. But the performances themselves have also changed, most noticeably in the late serial works. We might compare Boulez's two recordings of the first movement of the Quartet, Op. 22 (sehr mäßig) on the CBS and DG sets, made in 1970 and 1992 respectively [Audio 21 and 22]. The slow tempo and the rather undifferentiated instrumental articulation and colour of the 1970 performance give it a certain ponderous, deliberate and rather 'flat' quality and the recording is not helped by the overloud saxophone. The 1992 recording, however, is light and delicate, in a faster tempo and with more pronounced differences in timing, dynamics, accentuation, articulation and colour that create not only a far stronger impression of

[389] 'The Complete Webern' 6CD set, DGG 457 6372.
[390] Previously released on DGG 437 7862 GH, 445 8282 GH, 447 0992 GH, 447 1122 GH and 447 7652. The works for piano, performed by Krystian Zimerman, were newly recorded.
[391] Naxos 8.557530 and 8.557531.

metre but also of movement and gesture. Indeed, several recent reviewers have commented unfavourably on the 'dry' acoustic and 'flat aural perspective' of the 1978 Boulez set, previously seen as so definitive.[392] Such is the result of having more benchmarks for comparison.

Relatively subtle differences, in combination, can make a huge difference to the sound of a recording. As a second example, we might compare the two recordings of 'Christus factus est', the first of the Five Latin Canons, Op. 16, on the two Craft sets, the first recorded in 1954 [Example 11 and Audio 23] and the second in 2003 or 2004 [Audio 24]. The recent recording is only slightly slower than the 1954 recording (0:23 as opposed to 0:19, or about 17%), but even this small tempo difference produces a noticeably more leisurely performance. Grace-Lynne Martin's vocal part arguably sounds rather aggressive, especially in the difficult passage of rapid leaps in bars 8 -11, while Jennifer Welch-Babidge's sounds fluid and joyful, more in the spirit of religious exaltation implied by the text at this point, which reads 'Propter quod et Deus exaltavit illum: et dedit illi nomen' [Wherefore God also hath highly exalted Him and given Him a name].[393] Welch-Babidge's performance is slightly more legato than Martin's and her subtle dynamic nuances within single notes – such as the crescendi on 'no' of 'nobis' in bar 4 and 'nomen' in bar 13 – contribute to the expressive shaping of her performance.[394] Acoustic factors also play a part: the treble-dominated sound of the early recording emphasises the consonants in Martin's vocal part, making them sound more sharply enunciated, which may explain why her performance sounds rather aggressive. Her voice is also louder relative to the other instruments than Welch-Babidge's, which is lower in the overall mix and less closely miked, capturing more room ambience and reinforcing the impression that the three musicians are singing and playing in the same space.

[392] Whittall (1991), 55 and Libbey (2006), 52.
[393] As will be discussed in Chapter 6, Webern often uses wide vocal leaps and high notes to denote religious ecstasy, especially in Opp. 15 and 16, but this can be technically very difficult for singers to convey.
[394] Martin's performance does not sound as nuanced, but this may be due to the lack of dynamic contrast on the recording and we should not necessarily pass judgement on her performance because of it.

2.4.3. 'Authentic' Webern?

The idea that Webern was misunderstood and misinterpreted in performance – Stadlen's argument for years – is now common opinion among many musicians and musically-minded people. A reader's letter to *Gramophone* in 2005 complained about 'all the lethally cold [Webern] performances I've suffered through over the years'.[395] According to Maurizio Pollini: 'The idea that Schoenberg and Webern in particular are basically "cerebral", mathematical composers, that they lack heart and a spiritual impulse to communicate feeling as well as thought, is really a fundamental misconception'.[396] The idea of rediscovering a previously forgotten 'real' Webern has gained currency and one regularly encounters the view that recent performances have finally begun to 'get Webern right'. John Armstrong praised the Artis Quartet in a recent review of their 2001 Webern quartet compilation with the words: 'It's a pleasure to be reminded that Webern always was a lyrical composer; it's just that he doesn't always get lyrical performances.'[397] Jeffrey Round describes the sound of 'some of those old recordings' as 'almost obsessively anti-romantic, like an adolescent trying too hard not to imitate his parents', but his praise for the new Craft set mirrors the tone of many Webern record reviews of recent years:

> It's quite simply beautiful music, beautifully played, and probably much as Webern first conceived it nearly a century ago. It's taken all this time to get to the point where it can be properly performed.[398]

Blame for the tradition of technically accurate but emotionally dry performances is often pinned on the original Craft set. In a review of Dohnányi's Webern set, Steve Schwartz describes the old Craft recordings as '(to put it mildly) vacuous, missing the musical point time after time', calling instead, in the case of the Symphony, for 'a performance which builds the longest line possible from the fragments – that isn't afraid of a little *schmaltz* with this music.'[399]

Are recent Webern performances really more 'authentic'? This is a bad question. The notion of authenticity is an extremely problematic one: as Daniel Leech-Wilkinson and Richard Taruskin have argued, it has often been used by 'historically-informed'

[395] Farach-Colton (2005).
[396] Pollini in Hill et al (2003), 21.
[397] Armstrong (date unknown).
[398] Round (date unknown).
[399] Schwartz (2001).

performers to justify and lend academic weight to interpretations that, rather than being historically accurate, were very much of their time.[400] The same may be happening with Webern. While the critics of the avant-garde had good evidence on their side and may well have been right in claiming that Webern, had he lived to hear it, would have disapproved of the performance style of the 1950s, he may not have approved of the performance style of the 1990s or 2000s either. While recent Webern performances do emphasise melody lines and phrases, and bring out the music's lyrical, expressive character, we need only refer back to the comparison of Webern's 1932 recording of the Schubert German Dances and the recent recordings from Craft and Boulez in Chapter 1 to see that they do not go nearly as far as Webern. The current taste for accuracy in classical performance, as discussed in the next chapter, simply forbids the kind of wild tempo fluctuations Webern favoured. The Webern performance style we have now, not surprisingly, is one suited to contemporary and not 1930s tastes.

This does not stop people invoking the composer's authority to justify aesthetic decisions, however. As we may recall, Boulez's recent Webern set includes most (but not all) of the non-opus works unearthed by Moldenhauer but Craft's contains only opus-numbered works.[401] In 2006, Craft criticised 'one luxuriously boxed set' (almost certainly Boulez's 2000 collection) for:

> '[D]isregard[ing] Webern's own choices of the pieces he wished to form the canon of his works, namely those with opus numbers. […] Webern would have been appalled as well by the mechanical groupings of his works according to instrumentation – the string pieces, early and late, side by side, and the monotonous placements of songs one after the other.[402]

Craft characterises the pre- and non-opus works as 'fledgling efforts', 'dull' and 'filler', indicating that aesthetics may be as much a factor in his choice as fidelity to Webern's intentions. In the same essay, he accuses others of not respecting the composer's performance directions:

> Most performances of Webern's music tend to follow only minimally the composer's directions vis-à-vis tempi, dynamics, phrasing, articulation and expressive character. Of these elements, tempo is the most important, yet no

[400] See Leech-Wilkinson (1984, 2002 and 2009) and Taruskin (1995).
[401] At least so far (the set is incomplete). We may assume it will contain only Opp. 1-31, given Craft's comments below.
[402] Craft (2006), 93. Craft does not name Boulez, but mentions a complete Webern collection on Deutsche Grammophon – there are no other possible candidates. He then singles out particular passages for detailed criticism.

> recording of, for example, the *Symphonie* presents the music anywhere near the speed of Webern's metronomic indications, with the result that the masterpiece, journalistically well described by Virgil Thompson as 'spun steel', sounds as limp as the melting watch by Dali looks. […] I continue with a plea to the next generation of musicians to fulfil the composer's instructions regarding tempi, dynamics, phrasing, articulation and expressive character. Recordings of Webern's music that are virtually innocent of these considerations continue to appear.[403]

Craft claims to follow Webern's metronome marks himself in his own recent recordings of the Op. 21 Symphony and the Op. 30 Variations for orchestra – the performances Op. 30 and the second movement of Op. 21 both being 'first attempts' to 'realise the music as it was intended to be heard'.[404] In these movements he does indeed follow Webern's metronome marks quite closely. However, in the first movement of the Symphony the tempi dip far below the notated 'minim = ca 50'. Craft's performance starts at around minim = 44 and then slows to minim = 40 by bar 16, retaining a very broad tempo thereafter. At 7:27 as opposed to a mean of 6:22 for the others, Craft's is in fact by far the slowest recording of the first movement of the 10 timed in the average tempo study in Chapter 3. So much for spun steel. If Craft's stated intention had been to make the total duration of the two movements close to the '10 minutes' specified at the end of the score, then he would have succeeded, since his performance lasts 9:51 in total. But then, we saw in Chapter 1 that the durations Webern marked in his scores are often vastly inflated. Here, the duration and the metronome markings are wholly inconsistent: a performance at minim = ca 50, allowing extra time for the ritardandi, would take about 5:30 – faster than most recordings.[405] Composers' intentions can certainly be an unstable base for a performance practice. By strenuously arguing for adherence to Webern's metronome marks while taking a somewhat selective approach towards them himself, Craft does lay himself open to the charge of appealing to the notion of faithfulness to the score to justify a purely aesthetic decision, or 'picking and choosing from history's wares', as Richard Taruskin put it,[406] even after the comprehensive exposure of this habit in the historically informed performance world.[407] We often invoke the authority of the composer when his or her views happen to be in accordance with our own tastes and conveniently disregard it when they do not: Robert Philip

[403] Ibid., 89 and 92.
[404] Craft (2005), 6 and Craft (2009), 13.
[405] Yuasa's 2000 recording is closest at 5:24.
[406] Taruskin (1995), 164.
[407] In a further gesture of authenticity, the sleeve notes to Craft's recent Naxos recordings list all the dates and locations of the premieres for each work, along with all the original performers (where known). The implication is that he has done his research.

points out, for example, that modern performances of Elgar sound nothing like Elgar's own recordings.[408] The fact that Craft repeatedly claims to be acting on Webernian authority reveals something about his current aesthetic priorities, then, which appear to have changed remarkably since the 1950s but, more than anything, it reveals how Webern's music has aged. After all, his earliest published works are more than 100 years old now.[409] Introducing a concert broadcast of Mitsuko Uchida playing Op. 27, Radio 3 presenter Petroc Trelawny pronounced the Variations 'as evocative of their time as a Beethoven or Mozart sonata is of theirs'.[410] Modernism, we might say, is no longer modern.

2.4.4. Rückblick Moderne: Webern today

Postmodern tendencies emerging within Western art music over the past 40 years or so have engendered a re-evaluation of musical modernism, now something to be looked back on.[411] Serialism is no longer fashionable in 'serious' art music and atonality no longer mandatory. High modernist music is often criticized for its perceived paternalism, 'elitism', and 'difficulty' – in the musicological as well as the popular sphere[412] – and from our current pluralist perspective, its former utopian ambition and claims to universality now seem inspired by a naïve, misguided and perhaps rather suspect ideology. Serialism has been attacked on political, philosophical and gender as well as musical grounds[413] and M. J. Grant writes that '*Die Reihe* has become almost a watchword for the discontent people felt with serial music and the way in which its creators discussed it'.[414] Leon Botstein, moreover, notes that younger composers now pay 'little or no attention' to Schoenberg. With the 'success of the so-called "post-modern"', according to Botstein, 'A divergent view of the century and modernity emerges from these types of revisionism, one in which Schoenberg holds merely one place of prominence among many'.[415]

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[408] Philip (1984).
[409] The Passacaglia, Op. 1, dates from 1908.
[410] Uchida and Trelawny (2009).
[411] The title of this section is taken from the 1999 8CD compilation 'Rückblick Moderne – Orchestermusik im 20. Jahrhundert' (Col Legno WWE 20041), recorded live in Stuttgart in 1998.
[412] See McClary (1989), Griffiths (1995) and the response by Johnson (1996).
[413] Johnson (1997) describes 'Webernian serialism' as 'the embodiment of a patriarchal order in musical form', and discusses the political implications of serial 'purity'. Johnson (1997), 61.
[414] Grant (2001), 2-3.
[415] Botstein (1999), 20.

Webern is no longer an avant-garde icon either – although not necessarily to his detriment. Indeed, the Webern fervour, among composers at least, cooled quickly after the 1950s. Stravinsky looked back on the 'cult' of Webern in 1966, admitting that he, too, had come 'under the spell' of 'pseudo Webern', although he added: 'I think I was faithful to Webern, to my discoveries in him, longer than anyone else.'[416] In 1970, Kagel commented that Webern's works 'mean for me as a composer no more than the oeuvre of another great [composer]: good music'.[417] The same year, Ligeti admitted they lacked 'the igniting effect […] the catalyzing significance' they had had at the beginning of the 1950s, but remarked: 'I still love Webern's works just as I did before.'[418] And in 1983, Boulez agreed that while Webern had 'become less attractive to young composers lately', this had to be put in perspective, since 'in reality, he's never been played all that much'.[419]

Today, although Webern's music is still not 'popular', it is performed, recorded and broadcast quite frequently and appears to have found its niche. More Webern recordings were released during the 1990s than any other decade and many works, such as the Opp. 6 and 10 orchestral pieces and Op. 27 Piano Variations, have established a firm place in the twentieth-century repertory. Far from having passed out of favour, Webern's music may actually have more listeners today than it has ever had. The public conception of Webern, however, appears to be split between that of 'avant-garde' and 'post-romantic'. Mainstream critics and the record industry have increasingly come to adopt the post-romantic label, not least in order to make the music seem more accessible and, therefore, marketable. The sleeve note to Sinopoli's 2003 Webern orchestral music set writes that Webern's music is 'a continuation of the nineteenth century musical tradition', and Webern no longer 'a central figure of the twentieth century', but 'a composer who took the tradition of the "Viennese Classical period" as far as it could go'.[420] In what Tim Page calls the 'mainstreaming' of Webern, some try to distance him from the post-war avant-garde, whose 'ferocious, near-Marxian self-righteousness' has

[416] Stravinsky (1966), ix-xx.
[417] 'Das Werk Anton Weberns bedeutet für mich als Komponist nicht mehr als das Oeuvre anderer Großer: gute Musik.' Metzger and Riehn (1983), 111. Material from a Hessischen Rundfunk program broadcast on 14 September 1970 entitled 'Hat das Werk Anton Webern eine aktuelle Bedeutung? Komponisten Antworten' [Has the work of Anton Webern any current relevance? Composers answer].
[418] 'Darum liebe ich Weberns Werke genauso wie vorher, darum geht es gar nicht. […] Webern ist nach wie vor ganz wichtig, aber er hat nicht mehr die zündende Wirkung, nicht mehr so eine Katalysatorbedeutung wie es Anfang der 50er Jahre war.' Metzger and Riehn (1983), 105-06.
[419] Boulez (1983). Quoted in Vermeil (1996), 156 n. 24.
[420] Elatus 0927-49832-2. Sleeve notes anonymous.

become distasteful. 'Has any great composer ever been done so much harm by disciples and admirers?' Page asks, in an article entitled 'Webern after Webernism'.[421] Similarly, a 1996 *American Record Guide* review of a recording by the Houston Symphony Chamber Players praises their 'colorful and expressive' performance of the 'normally forbidding Webern Concerto', saying: 'We get an immediate, vivid sense of just how different Webern was from his many imitators, who turned the academic music scene into such a bore in the middle of this century. It's a classic example – Freud versus Freudians is another – of a master being compromised by his disciples.'[422]

As Webern's music has been distanced from that of the post-war avant-garde, so have images of Webern the man. In the sleeve notes to his recent Naxos recordings, Craft describes the composer in terms that appear to be as deliberately un-iconic as possible, calling him 'more a rustic […] than a cosmopolitan' who spoke with 'a Tyrolese dialect and, except for Church Latin, no word of any foreign language'.[423] Webern's political beliefs have also come under uncomfortable scrutiny in more recent years. For a long time the official line was, as Friedrich Wildgans wrote in 1966, that 'Webern found nothing positive in the philosophy of national socialism or in the whole complex of fascism'.[424] In fact, however, there is substantial evidence that he was a passive sympathiser with the Nazi regime, at least during the first half of the war.[425] This would have been virtually impossible to discuss openly in the post-war period,[426] with the composer the adopted figurehead of a new cosmopolitan, pan-European musical style that explicitly styled itself as the 'language of anti-fascism'.[427] In 1972, Kolisch would not publicly discuss the 'enormously sensitive' [ungeheuer empfindlich]

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[421] Page (1995), 38.
[422] Sullivan (1996), 234-35.
[423] Craft (2005), 5. This comment also appears in an expanded form in Craft (2006) and lots of material in the sleeve notes is taken from this essay.
[424] Wildgans (1966), 110.
[425] Most incriminatingly, Webern expressed enthusiasm for Hitler in letters. Much of this evidence came to light in Moldenhauer's 1978 biography, which includes a section in the index entry for Webern on 'political attitudes and racial sentiments'. See Schroeder (1996) for a discussion of Webern's political views. Eduard Steuermann reportedly cut off contact with Webern after 1937, offended at him marking the envelopes of their letters with the words 'Großdeutsches Reich'. See Metzger and Riehn (1983) 47-48, n. 128.
[426] Although some alluded to it. Adorno's critiques of late Webern sometimes hint at biographical details, as in: 'It is conceivable that in their literalness and in their subservience to the notes […] something of the naïve peasant in Webern broke through, something of the pigheadedness of the believer in natural medicine.' Adorno (1999), 103. Adorno saw Schoenberg and Webern's early expressionist works as inherently anti-fascist – directly, although weakly, opposing the evils of mass thinking – although his attitude to Webern's late works was much more ambivalent.
[427] Thacker (2007), 20-21. Quoted fully in 2.2.2. above.

topic of Webern's politics.[428] Even discussing Webern's music in terms of national characteristics was dangerous territory: Cerha wrote in 1983 that the idea that, like Schubert and Mahler and Berg, it has its intellectual roots in the 'humus' of Austrian life was still 'difficult to talk about because it easily provoked misunderstandings'. It had, he was at pains to point out, 'nothing to do with "Heimat" or "blood and soil"'.[429] Recently Webern's political leanings have been acknowledged a little more, Johnson noting that a 'discrepancy between the revolutionary and the reactionary in Webern's attitudes goes to the heart of the man as to the music'.[430] Behind this lies the breakdown of the perceived alliance between artistic modernism and political progressivism: the post-war faith in musical modernity as a symbol of cosmopolitanism and cultural progress has been substantially eroded, if not completely dissolved.

The packaging and promotion of commercial releases, particularly the grouping of his works with others, offers many clues as to what Webern's music is considered to mean today. All-Webern discs are common and, thanks to their small dimensions, entire sets of works for particular forces (for orchestra, or string quartet) can be easily fitted on to a single CD, creating a 'comprehensive collection'.[431] Where Webern's works are combined with other composers', these are usually his contemporaries – most obviously Schoenberg and Berg but also other early 20th century composers, particularly Mahler, Stravinsky, Debussy and Ravel. Webern is a staple of the 20th century retrospective anthology: his music is seen as representative of an era.[432] Sometimes it appears with music by later modernist composers like Berio, Henze, Ligeti, Kagel, Boulez and Xenakis[433] or with contemporary works; this applies particularly to the pieces for string quartet.[434] Over the last 20 years or so, however, it has become increasingly common to

[428] Pauli (1984), 258.
[429] '[E]s fällt mir schwer darüber zu sprechen, weil das leicht Missverständnisse provoziert. Was gemeint ist, hat nichts mit „Heimat" oder „Blut und Boden"-Gesinnung zu tun'. Cerha (2001), 172-73.
[430] Johnson (1999), 82.
[431] See the orchestral collections conducted by Sinopoli (Elatus 0927-49832-2) and Dohnányi (Decca 444 593-2) or the string quartet collections by the Artis Quartett (Nimbus NI 5668) or the Arditti Quartet (Auvidis Disques Montaigne 789008).
[432] For example Col Legno WWE 8CD 20041 (1999) and Naxos 8.558168-69 (2005).
[433] For example with Ligeti, Varèse, Lutosławski, Takemitsu and Birtwistle on Classico CLASSCD 312 (2000). The combination of Webern with later composers tends to occur more often on single-instrument collections such as DGG 477 5506 (2005), Aeon AECD0860, (2008), or Emergo Classics EC 3935-2 (1998).
[434] Such as the Smith Quartet's 'Good Medicine: String Quartets from America and Europe', Glissando 779003-2 (2000), where Webern's Op. 5 is combined with works by Daugherty, Fitkin, Mackey, Nancarrow, Nyman, Pärt, and Riley, or the Kronos Quartet, 'Winter Was

group Webern with older music, tracing back its connections to romantic and even classical Germanic, and especially Viennese, styles. Numerous 'Vienna 1900' compilations with titles like 'Wien 1900: The Death of Tonality?' programme him alongside Mahler, Zemlinsky, Schreker, Richard Strauss and early Schoenberg as well as, further back, Liszt and Brahms.[435] These types of disc normally include only the early Op. 5 pieces, the pre-opus Slow Movement, or *Im Sommerwind*. (The accessible tonal late-romantic idiom of these last two works means they are often recorded despite being very unrepresentative of his mature style.) Webern is also frequently grouped with Schubert[436] or Bach.[437] Sometimes individual movements or pieces are interspersed with older works: a 1997 recording of the Op. 6 pieces mixes them up with excerpts from Schubert's *Rosamunde*, Op. 26 (D797),[438] while a couple of recent commercial CDs use the six tiny Op. 9 Bagatelles as interludes between contemporary compositions[439] and movements of a Haydn string quartet.[440]

Of course, the practice of sugaring the atonal pill with a little late-romantic molasses is a good marketing strategy. As Allan Kozinn writes, the pre-opus works like *Im Sommerwind* are often used to say to concert audiences: 'See, Webern isn't so bad'.[441] But marketing is surely only part of the story: these kinds of CD programming often highlight unexpected affinities between composers of very different eras, situating Webern within a wider Germanic compositional tradition. Thus, they reflect an understanding of his music as basically a part of this tradition rather than a radical break from it – an idea that, as discussed, has come to characterise much musicological writing as well. Crucially, it filters into concert and record reviews from the late 1960s onwards. Today, after a concert, a reviewer can write that Webern was 'schooled in the Romantic mainstream, and built on it […] the Philharmonic's playing, polished and warm, offered occasional glimpses – in the rich vibrato on a violin line, the vigorous

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Hard', where the Op. 9 Bagatelles appear with Riley, Zorn, Sallinen and others, Elektra Nonesuch 7559-79181-2 (1988).

[435] Harmonia Mundi, HAR 2908180, 2005. Others include the Kronos Quartet's 'Am Grabe Richard Wagners', Elektra/Nonesuch 7559-79318-2 (1993), the double-disc anthology 'Vienne 1900', Naïve V 5039 (2006), 'Klimt – Music of His Time', Naxos 8.558146 (2004) and 'Turn of the Century Cello', Dorian 80145 (1995).

[436] See Musicaphon M 56884 and Oehms Classics OC333 2003.

[437] ECM New Series 1774.

[438] On CD2 of Hänssler 93.017.

[439] Alba ABCD239.

[440] Zig-Zag ZZT030802.

[441] Kozinn (2009).

rendering of a woodwind figure — of the Romantic who wrote *Im Sommerwind*.'[442] Or that a recording makes Webern '"user-friendly" […] through solid musicianship and an interpretive middle ground that keeps the music, even at its most radical, connected to a tradition'.[443] Others hint at a more uneasy synthesis of the geometric and the organic: calling to mind Stravinsky's 'dazzling diamonds' but now with a human touch, the closing sentence of Paul Griffiths' sleeve notes to Boulez's second Webern set reads: 'The crystal has a memory and a beating heart.'[444]

Webern's music has been appropriated rather differently since the 1960s among musicians working outside the classical mainstream in jazz and improvisation, electronic and electroacoustic music, contemporary, experimental and film music – the diverse wings of what could be called the 'post-serial avant-garde'. Webern has influenced jazz musicians, notably the improvising guitarist Derek Bailey and the trumpeter Bill Dixon, composer of the unaccompanied trumpet piece *Webern* (1973).[445] The Op. 5 string quartet pieces have twice been arranged for jazz quartet.[446] Webern's music has been sampled from the 1960s onwards by musicians working in fields that span the 'popular' and the 'classical'.[447] There has been at least one Webern remix – of the second movement of the Op. 27 Piano Variations[448] – and the same piece has been reworked by composers such as Jean-Claude Risset[449] and Juliana Hodkinson.[450] These musicians have tended to latch onto the radical aspects of his music – although more its

[442] Ibid.
[443] Lange (2002), 214.
[444] Griffiths (2000), 53.
[445] On the LP 'Considerations 2', Fore 80/Five (1981). The album 'Wide Rooms' by Duo Köppenbär contains a track entitled 'When Monk meets Webern in a Speakeasy' (Senti SE-CD 03, 2006), referring to jazz pianist Thelonious Monk.
[446] By Veryan Weston and performed by the British jazz-rock group Stinky Winkles, released in 1980 (Pipe 2) and reissued in 1994 on CD (Blueprint/Voiceprint BP159CD), and by Bruce Arnold, released in 2003 (Muse Eek MSK 117). The latter also contains a recording of what is referred to as '5 Cannons' by Webern, presumably Op. 16.
[447] See Pierre Schaeffer and Guy Reibel, 'Solfège De L'Objet Sonore' ORTF SR 2 (3LP, 1967) and INA-GRM INA C 2010-12 (3CD re-release, 1998), John Wall, 'Fractuur' (UtterPsalm CD3, 1997), Vindicatrix, 'Die Alten Bösen Lieder' (Mordant Music, MM038, 2009) and John Oswald's freely-distributed 'Plunderphonic' (self-released, 1989), which was recalled and destroyed for multiple copyright violation.
[448] By the artist 'The Days of Perky Pat' http://www.myspace.com/perkypat [Accessed 8 June 2010].
[449] 'Beginning Of Anton Webern's Variation Opus 27 Nr 2', available on 'Computer Music Journal Sound Anthology, Vol. 20' (CMJ CD-20-1, 1996).
[450] *When the Wind Blows* (for piano, toys and audio playback, Edition Wilhelm Hansen, WH 31021, 2009), a cut-up of the first movement of the Op. 27 Variations.

textures and timbres than its pitch structures.[451] Krenek and Eimert spoke of Webern's anticipation of electronic composition back in the 1950s, and Webern is today viewed by some as a sonic explorer at the juncture between traditional instrumental classical music and electronic experimentation, a composer better compared with Varèse than Schoenberg.[452] The 'Webern sound' – defined by its delicate, disparate atonal gestures and clear, bell-like timbres – has had a substantial influence on composers, particularly film composers. The third piece from Op. 10 was used along with works by Penderecki, Henze and George Crumb on the soundtrack for *The Exorcist* (1973) and the Op. 2 choral work *Entflieht auf leichten Kähnen* was considered for Kubrick's *2001: A Space Odyssey* (1968).[453] The fact that, arguably, very little of Webern's music intentionally communicates fear[454] has not stopped the Webern sound becoming generic for horror films, reflecting the popular mode of hearing 20th century atonal music as signifying primarily the otherworldly and the supernatural – to put it crudely, space and ghosts. Evocations of the otherworldly crop up repeatedly in descriptions of his music – from the 1930s *Musical Times* reviewer's description of the String Trio as reminiscent of 'Shakespeare's ghosts that did "squeak and gibber"'[455] to Page's comment that listening to Webern 'may be likened to a visit from some gentle, benign alien who has taken over the room to shimmer at us for a while.'[456] Others celebrate the largely non-developmental character of Webern's music, its creation of an 'intensely meditative' atmosphere.[457] Chou Wen-Chung writes that the music of Webern and Varése is 'conceptually and aesthetically in sympathy with important categories of Asian music'[458] and Webern has even been sold as 'music for meditation'.[459] Jonathan Harvey links it more to the static music of the pre-classical eras than to the dynamism of German classicism, to 'Palestrina, with its own de-emphasized floating curves, and modal oriental music, rather than its own recent past'.[460]

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[451] This applies particularly to music based on samples, since the sampling process destroys the formal structure of the original works while retaining the specific sounds of recorded performances.
[452] See Libbey (2006).
[453] Warner Bros. W2774 (1974). Op. 2 appears on the second volume of the *2001* soundtrack LP (MGM SE4722) but not in the actual film.
[454] The terrifying fourth piece of Op. 6 – discussed in Chapter 3 – is a memorable exception.
[455] Scott (1939), 64.
[456] Page (1995), 40.
[457] Schwartz (2001).
[458] Wen-Chung (1971), 214. This idea is not new. In 1961, Boulez implicitly compared the gestures of Webern to those of 'Japanese actors' or 'dancers from India'. Boulez (1991), 295.
[459] A LaSalle Quartet recording of Op. 5 no. 5 appeared on a disc entitled 'Sphären: Beyond Reality vol. 2' (DGG 415 8941) part of the series 'Musik zur Ruhe – Music for Meditation'.
[460] Harvey (1982), 4. Quoted in Day (2000), 184.

2.5. Conclusion

In this chapter, we have taken a tour through the last 70 years of Webern recording and reception since his music began to be committed to record in 1939. Before going on to discuss the question of style change in more depth, it will be helpful to briefly summarise the existing Webern recordings, since in many cases the availability – or not – of different recorded versions affects what can be firmly said about performance style. The vast majority of commercial Webern recordings were made within the last 60 years; only the 1939 Washbourne Trio recording and Peter Stadlen's live Op. 27 recording of 1948 predate 1950. There were flurries of recording activity in the 1950s, the late 1960s and (especially) the 1990s, including but not limited to the Craft and Boulez recordings on the boxed sets. Very few Webern recordings were released during the 1980s, perhaps because Boulez's 1978 CBS set was seen as having covered the market for the foreseeable future, but probably also linked to the general record industry slump in the late 1970s and early 1980s.[461] The introduction of CDs in 1982 reinvigorated the industry and led record companies to re-record repertoire, starting with the core classics and leaving more marginal works until later.[462] We may assume they got round to Webern in the early 1990s, when a great many recordings were made and a number of older recordings reissued on CD, including the Boulez set in 1991. The rate at which recordings are released has slowed somewhat since then, but their overall number has increased dramatically over the last two decades. The orchestral works (Opp. 1, 6, 10, 24 and 30 plus the orchestration of Op. 5)[463] are now amply recorded, as are the string chamber works (Opp. 5, 9, 20 and 28), and these are often released as complete sets. On the other hand, as Webern's only opus-numbered works for violin or cello and piano, the tiny Opp. 7 and 11 tend to be recorded as 'one-offs' along with works by other composers. The saxophone Quartet, Op. 22, with its unusual instrumentation and 'difficult' reputation, is seldom recorded. The Op. 27 Piano Variations, Webern's only work for a solo instrument, is also his most frequently recorded, with at least 60 recordings commercially available. Judging by the number of recordings made, his next most popular works are the Op. 5 Five Pieces for String Quartet, the Op. 7 Four Pieces

[461] See Gronow (1983), who names economic recession, market saturation, competition from other media and the influence of private copying as possible reasons for the slump (p. 71-72).
[462] According to the conductor Lorin Maazel, interviewed in 1981, lack of sales led record companies to revert back to recording 'basic repertoire […] more Beethoven, more Brahms'. Badal (1996), 20.
[463] For convenience, I have classified the Op. 24 Concerto as an orchestral work, though it might be more accurately described as a chamber work for nine instruments.

for Violin and Piano, the Op. 1 Passacaglia, the Op. 6 Six Pieces for Orchestra, *Im Sommerwind* and the Slow Movement. Thus, with the exception of Op. 27, the more approachable early works dominate Webern repertory on record.

Webern's songs (Opp. 3, 4, 8, 12-18, 23 and 25) and choral works (Opp. 2, 19, 26, 29 and 31) still remain fairly neglected – the middle-period songs Opp. 12-18 particularly so – probably due to their technical difficulty and density of expression.[464] In the case of the large works for choir and full orchestra (*Das Augenlicht*, Op. 26, and the two late cantatas), the practical and financial difficulties associated with assembling sufficiently large numbers of musicians appear to have severely limited the number of recordings. Audiences for Webern's music are not large and potential sales figures are necessarily limited. Record companies are always reluctant to make risky investments by recording more obscure repertoire when it requires large, expensive forces. Were it not for Boulez and Craft, some works of Webern – most notably Op. 26 and the Op. 31 Cantata – would not have been recorded at all.[465] There are still substantial holes in Webern repertoire on record and we cannot talk about a performance-stylistic 'tradition' for most of the vocal works, taking them as individual pieces or cycles. As we will see in the next chapter, however, there is much that can be said about style with regard to the vocal works as a whole, as well as to the instrumental works.

In this chapter, we have seen how the history of Webern performance style on record parallels the history of Webern reception. The 1950s avant-garde understood Webern's works as radical, innovative examples of objective musical structures and their recordings reflect this: with their detached articulation, generally fast tempi, relative uniformity of timing and dynamics and dry acoustics, they emphasise precision, clarity and the singularity of each note. This 'pointillist' style was criticised as a misinterpretation by former members of the Schoenberg Circle, who argued that Webern's music should be performed far more expressively – with more rubato and dynamic contrasts – and in a way that emphasised the contrapuntal connections between notes. This kind of performance style can be heard in the late 1940s and early 1950s Webern recordings of Leibowitz, Stadlen and the Kolisch Quartet. An ideological and stylistic clash between pre-war and post-war strands of modernism is vividly illustrated in these disagreements over Webern performance practice.

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[464] See Chapter 6.
[465] Both have made multiple recordings of these works. See Discography for details.

In actual fact, what we can see in the late 1940s, 50s and 60s is not one but two Webern performance styles: the Viennese tradition and the avant-garde 'Darmstadt' practice that rejected – or more accurately, perhaps, ignored – this tradition. The Darmstadt approach was arguably dominant in the 1950s, especially since the Craft set was so influential, 'fixing' the sound of Webern on record and conditioning expectations of how his music should sound for at least a decade. From the 1960s, however, this avant-garde style started to become more moderate; Webern recordings made from the 1960s onwards become more openly expressive. Record critics began to remark on this change around the release of the first Boulez set in 1978 and the trend continued in post-1980 Webern recordings and in the second Boulez and Craft sets. Whereas Webern used to be performed like early Boulez, today, he is more often performed like Mahler or Brahms.

How can we account for this change? Were the voices of the Viennese tradition beginning to be listened to? Certainly, the idea that the Darmstadt avant-garde misinterpreted Webern appears to have been widely accepted today and Craft has even raised the idea of returning to a more 'authentic' Webern performance style. As we will see in the following chapter, Stadlen's Op. 27 performance score has also had an important effect. But though recent performances do tend to be more linear and contrapuntal, with more shaped phrases and more rubato, they hardly return to the kind of vitalist style heard on Webern's own recordings. Therefore, as discussed above, we should see modern (as opposed to 1950s 'modernist') Webern performance style as something new and not in any way a genuine return to a past practice.

When looking for reasons why Webern performance style has changed, might we look also to the parallel changes in how his music has been understood and therefore see the style change as a reflection of changing ideas? Since the 1950s, the focus of musicological and critical writing about Webern has shifted away from the abstract constructive aspects of his music and towards emotional expression – just as the performance style has. The documents made available by Moldenhauer between the 1960s and 1980s certainly contributed to this: in particular, the release of the pre-opus works caused many to re-evaluate Webern's compositional style in terms of its late romantic origins. But today's Webern musicology could also be seen as partly a reaction against the extremity of the 1950s avant-garde response to Webern, an attempt

to reclaim his music as expressively meaningful. Could we see the change in Webern performance style as a similar kind of counter-reaction?

I shall address these questions in the next chapter. However, I shall argue that, rather than performance style simply *reflecting* conceptions of the music, there is far more interplay and feedback between them and in fact, it is more often the other way round. That is, the style change is the driving force for the change in ideas. While Schoenberg and Kolisch argued for the notion of idea over execution, I wish to argue instead for the notion of execution over idea.

Chapter 3

Webern performance style on record

3.1. Introduction

As we saw in the previous chapter, the sound of Webern recordings has become more linear and expressive since the 1950s. But this impression of linearity and expressivity is a product of several sonic changes working in parallel – changes in articulation, tempo, timing and dynamics – as well as timbre and texture. The general changes in Webern recordings since the 1950s may be broken down as follows:

1. More legato articulation
2. Slower average tempi
3. More timing flexibility
4. Tighter ensemble
5. More reverberation
6. More dynamic contrast, especially noticeable at the quiet end of the dynamic spectrum

In the first half of this chapter (3.2.), I shall discuss these trends in turn and assess their relative impacts. They encompass changes in recording practices as well as in performance style, although the two can sometimes be quite difficult to disentangle, as we shall see. In the second half of this chapter (3.3. to 3.5.), I shall discuss their effects in more depth and seek out possible explanations. We shall see that Boulez and Craft have had a strong influence over the sound of Webern on record, but that the changes may also be related to wider shifts in twentieth-century performance style and in the sound of recordings, partly afforded by developments in recording technology itself.

3.2. Trends in Webern recordings

3.2.1. Articulation

On the whole, note articulation in Webern recordings has become smoother and more legato since the 1950 and 60s. Although this trend is not one that can easily be

demonstrated empirically,[466] it is clearly audible. We can hear its extremes by noting the contrasts between, for example, Yvonne Loriod's staccato 1961 recording of the climactic passage from bars 45-55 of the third movement of the Op. 27 Piano Variations [Audio 25] – a recording fully befitting a pianist who performed Boulez's *Structures 1a* and Second Sonata at Darmstadt during the 1950s – and Stephen Hough's more legato, more muted 2006 recording of the same passage [Audio 26].[467] A very clear example of Boulez changing his approach to articulation in Webern can be heard by comparing his 1956 and 1969 recordings of the first bar of the Op. 29 Cantata. In the score [Example 12] the three chords in the trumpet, trombone, viola and cello parts in bar 1 carry staccato and tenuto marks in all parts, which normally indicates nonlegato articulation. At the beginning of the 1956 recording [Audio 27], the three chords are indeed played uniformly nonlegato, separated by silences. In 1969 [Audio 28], on the other hand, the trumpet and trombone parts are played completely legato, the viola and cello parts slightly nonlegato. The trumpet is also significantly louder than the other parts, creating a more differentiated texture: a sustained three-note trumpet melody accompanied by string and trombone chords.

Many Webern recordings made after the 1960s also make some use of portamento-legato. Portamento was often used by string players and singers before the Second World War to add expressive pathos to melody lines. Though Schoenberg railed against its excessive use, as we will see in Chapter 6, it was nonetheless a part of Second Viennese School style, as we heard in Webern's Berg and Schubert recordings discussed in Chapter 1 [Audio 8 and 9]. Fittingly, portamento can be heard in the early 1950s recordings of Leibowitz and the Pro Arte Quartet: Leibowitz's recording of the first variation (bars 12-22) from the second movement of the Op. 21 Symphony, for example [Audio 29], contains noticeable string slides. In Craft's and Boulez's 1950s recordings, however, pitch slides are almost completely absent and seem to have been studiously avoided even in conducive vocal passages: listen to the precisely terraced performance of the melisma by Craft's soprano Grace-Lynne Martin at the words 'Golden Blüht' in bar 14 of 'Ein Winterabend', the fourth of the Op. 13 songs [Audio 30]. Portamento makes a tentative return in Webern recordings made from the 1960s

[466] Articulation is not a single acoustic parameter but a complex music-perceptual category that describes the timbral and dynamic envelopes and durations of notes and the way these relate to one another. No practically feasible method of gathering articulation data from recordings yet exists.

[467] Hough's performance is also slower and with a slightly more reverberant acoustic than Loriod's, which enhances the impression of legato. See 3.2.5. below on reverberation.

onwards, though it is mainly confined to the subtle portamento-legato used by singers and string players to enhance the continuity of melody lines, as used by Heather Harper in her flexible and sinuous rendering of the same line from Op. 13 no. 4 in a 1967 recording on the first Boulez set [Audio 31]. String players in very recent Webern recordings sometimes use slightly fuller portamenti to lend pathos to particular gestures,[468] but this is by no means a firm stylistic trend: performers' use of portamento in Webern still remains occasional and largely an aspect of individual style. The use of portamento by singers is discussed further in Chapter 6 with reference to recordings of the Op. 14 Trakl songs.

The trend towards legato articulation has resulted in more lyrical performances with more connected lines. The textures in much of Webern's later music – especially the serial music – are very spare and open, with rarely more than a few instruments playing simultaneously: Op. 21, for example, although called a 'Symphony', is for a bare nine-part orchestra of which only four parts ever play at once. Notes are typically widely spaced with frequent leaps within each part, often of more than an octave. The scores have a fragmented appearance and each instrument rarely plays more than three or four notes in succession. We know, however, that Webern did not intend the music to be heard as fragmented, but as a series of continuous horizontal lines passing between instruments or voices. In Klangfarbenmelodie, a single melody takes on different 'tone colours' or timbres as it is passed between instruments, creating the illusion of a single object moving through different materials or undergoing shifts in state. This is an extension of the normal perceptual metaphor of melody – that a melodic 'line' comprises the path of a single moving object rather than a series of separate sounds. The use of the technique is obvious in Webern's orchestration of Bach's Ricercare, where the fugue subject is shared between several different instruments but clearly retains its identity as a subject, as can be heard in the Vienna Philharmonic Orchestra's 1990 recording of the piece, conducted by Claudio Abbado [Audio 32]. The effect of Klangfarbenmelodie, however, depends on performances enhancing the perceptual connections between notes. As in Abbado's recording, subtle control of timing, dynamics, articulation and timbre is necessary to create the illusion of smooth horizontal voice-leading from one instrument to the next. Articulation must be relatively smooth, note onsets and offsets must be synchronised with no gap between notes

[468] See the Op. 24 Concerto example discussed below.

(perhaps even a little overlapping)[469] and timbres must be adjusted to match, as far as possible.[470] Cerha talks of making the short two-, three- and four-note groups in late Webern 'reach deliberately from one instrument to another', creating continuity across the gaps.[471] This meant avoiding the traditional 'bad habit' of abbreviating the last note in a phrase group, which 'disrupts larger units of meaning in Webern more easily than in other music' (suggesting one might have to 'unlearn' certain stylistic habits in order to perform Webern successfully).[472] What was required was a sensitive legato style that consciously reinforced the linear connections between note-groups.

A psychoacoustic basis for hearing music in terms of voice-leading lies in the phenomena that Albert Bregman calls 'auditory stream fusion' and 'auditory stream segregation', the first concerning the way in which successive sounds cohere into a single continuous 'line' or 'voice', the second how synchronous sounds can be heard as part of these separate lines or voices simultaneously.[473] Auditory streaming, and thus the impression of voice-leading, is affected by a variety of different factors, including timbre (and articulation), tone duration (related to tempo) and spatial position in the stereo field.[474] Broadly speaking, music with predominantly legato articulation, in a relatively slow tempo (and emanating from a single point in the stereo field, as we will see in 3.5. below) is more likely to be heard in a linear or contrapuntal fashion.

For an example of the effect articulation can have, we might take Craft's two recordings from 1956 and 2003-04 of the second movement of the Concerto for Nine Instruments, Op. 24 [Audio 33 and 34], the first on the Columbia set, the second on Naxos. The Concerto is one of Webern's most compressed and apparently abstract works, with a strict serial structure that makes much use of redundancy within the

[469] See Kuwano et al (1994) on the relationship between perceived sound stream smoothness and legato performance.
[470] Gregory (1994).
[471] Full passage: 'In diesem Punkt gewann die vor allem im Spätwerk gegebene Notwendigkeit des bewussten Weiterreichen von Tongruppen von einem Instrument zum anderen an Bedeutung, der Kampf gegen die Unsitte des Fallenlassens des letzten Tons in den strukturbildenden zwei-, drei- oder viertönigen Gruppen […] durch das sinnentstellende Löcher entstehen, ferner der Kampf gegen den aus der klassisch-romantischen Tradition stammenden Usus des Abziehens (Verkürzens) des letzten Tons von legato-Gruppen, das bei Webern leichter als in anderer Musik größere Sinneinheiten zerreißt.' Cerha (2001), 171.
[472] Similarly, Boulez (1999) writes that Webern's music 'poses problems to its interpreters that call into question a good many acquired habits'.
[473] Bregman (1990).
[474] Exhaustively described in Huron (2001).

row.[475] In 1982, Christopher Wintle described the available performances of Op. 24 as 'chic, clean, inorganic and dead'.[476] The score of the second movement [Example 13] certainly appears texturally and rhythmically rather uniform: it contains only minims and crotchets, some marked with slurs and others with tenuto marks, with an abundance of rests. Wildgans describes the 'pointillism' of the individual instruments: no instrument apart from the piano plays more than three notes sequentially.[477] Craft's 1956 recording of the second movement [Audio 33] proceeds in almost metronomically even tempo. The articulation is largely non-legato, save where a slur is actually notated. There are few dynamic differentiations and even the notated ones are understated – the triple pianissimo passages are louder than one would expect, for instance – and there is little differentiation in tone colour. To be fair to Craft, he says this work was recorded under extreme time pressure and describes it as their 'worst' performance.[478] Craft's recent recording of this movement, [Audio 34], although in a similar tempo and also rather metronomic, employs a wider dynamic and timbral range and the articulation is smoother: the instrumental phrases overlap and merge into one another. The reverberant acoustic helps, but the impression of voice-leading is primarily created by the performers. Whereas in the 1956 recording the minim B in the oboe in bar 8 stops after little more than a crotchet, for example, in the new recording the oboist sustains it for its full notated value, linking it smoothly with the violin C in bar 9, which then exaggerates its move to the G# with a portamento. In fact, the violin part is full of little portamento touches – at 0:15, 1:15, 1:59-2:01 and 2:28 – that are entirely absent from the 1956 recording. Instead of isolated, static sound points suspended in space, we have a much more dynamic conception of a melody line passed between instruments, plus piano accompaniment. The melodic imitation between parts – particularly between violin and piano in bars 9-11 (0:14-0:18) and 20-22 (0:35-0:39) – is also far more audible in the 2003-04 recording. What is most striking is that the differences between the two Craft recordings are actually very subtle, but, cumulatively, they produce a completely different impression of the movement. In Webern, tiny differences in performance style can be critical.

[475] For analyses of this movement, see Gauldin (1977) and Wintle (1982).
[476] Wintle (1982), 98.
[477] Wildgans (1996), 144.
[478] Craft (1957b), 29.

3.2.2. Average tempo

Unlike articulation, tempo is easy to measure empirically. To see whether there are any tempo trends in Webern performances on record, the duration of 928 recordings was measured and each expressed as a percentage deviation from the mean duration for that work.[479] This showed that recordings have tended to get longer since the early 1950s, which is likely to signify slower average tempi.[480] Table 1a and Figure 4 show that this slowing trend applies mainly to the vocal works, which have slowed down by about 20% since the 1950s, whereas the instrumental works have slowed only marginally. Table 1a shows that a linear slowing trend accounts for more of the variance in duration in the vocal works (R^2 = .40) than the instrumental works (.03), although the overall slowing trends for instrumental and vocal works are both highly significant. Subdividing a little further, the average tempi of the works for solo voice and accompaniment (either piano or instruments) have decreased slightly more than the tempi of the choral works. Only the chamber instrumental works show no significant slowing tendency.[481] The Op. 27 Piano Variations, Webern's only opus-numbered work for solo piano, appears in a category of its own and also shows a significant trend towards slower performance.

Table 1b shows that the slowing trend applies to the early expressionist pieces, the middle-period songs and the late-period serial works within Webern's oeuvre, but that the middle-period songs (Opp. 12-19) have slowed most markedly. Figure 4 suggests that most of the slowing occurred between the 1950s and early 1970s. To test

[479] Individual pieces, songs or movements within opus numbers were treated as separate 'works', giving 928 different recordings of 111 works from 31 opus numbers, including Webern's string orchestral arrangement of Op. 5. The number of recordings of each work ranged from four to 51 [Figure 1]. The actual sounding duration of each recording was measured to the nearest second using Audacity (silences at the beginnings and ends of CD tracks, for example, were disregarded). When works faded to silence (as in the third piece of Op. 10, for example), timing was stopped when sound ceased to be audible at a normal comfortable listening volume. In very reverberant recordings, timing was stopped before the reverberation had completely died away to avoid falsely lengthening the duration.

[480] Admittedly, as José Bowen points out, 'tempo and duration are only generally inversely related'. Bowen (1996), 145. This duration analysis is therefore offers only a rough suggestion of how tempo may have changed: to be more accurate, one would have to measure tempo directly (of course, this changes throughout performances). Moreover, average measures of tempo or duration are abstractions and may not necessarily correspond to the perceived dominant tempo due to confounding by pauses, phrase final lengthening and so forth. This should be borne in mind when reading the following analysis.

[481] For this reason, the average R^2 value for the instrumental works is lower than it would otherwise be.

this, the works recorded between 1948 and 1979 and between 1980 and 2009 were analysed separately.[482] The results, shown in Figures 5a and 5b, indicate that the bulk of the slowing did occur between the 1950s and 1970s, between the Craft and first Boulez sets. Almost every recording on Boulez's 1978 set is slower than the corresponding recording on the 1957 Craft set, for example. If these figures relate to a general change in approach to Webern's music, then it seems that, as suggested in the previous chapter, this occurred mainly during the 1960s and 1970s.

Admittedly, the fast tempi in the first Craft set – although far from unique in the 1950s[483] – may have biased the overall tempo trends simply because such a large proportion of the 1950s recordings are on the Craft set. The same could be said of the other Craft set and the two Boulez sets.[484] Indeed, these four complete works collections make up a considerable proportion (401 out of 928) of the recordings in this tempo analysis. The Boulez Domaine musical recordings account for another 17, meaning that Boulez and Craft were either directly or indirectly responsible for 418 recordings between them (about 45% of the total). The style changes observed in Webern recordings may, then, have as much to do with changes in the performance style of Craft and Boulez as they do with more general changes in Webern performance style – an idea explored further in 3.3. below.

It is not immediately obvious why the vocal works (and the middle-period works, which are all vocal) should have slowed down the most, but a couple of possibilities present themselves. Firstly, we might note the link between tempo and expressivity: slower tempi are often (although not inevitably) associated with a more expressive performance style. Therefore, the greater slowing of tempi may indicate that the songs are easier to conceive of in expressive terms. The soprano Tony Arnold writes that:

[482] The two movements of the 1939 Washbourne Trio Op. 20 recording were excluded from this analysis.
[483] For example, Bethany Beardslee and Jacques-Louis Monod's 1951 performances of Opp. 12 and 27 on Dial 17 and the two recordings of Op. 27 by Glenn Gould from 1954 and 1957 are also faster than the mean.
[484] The tempi in these sets are slower than Craft's 1950s recordings and broadly similar to one another.

> In terms of expressive models, it is clear to me that Webern's songs are directly related to the lieder tradition that preceded them – Schubert, Schumann, Wolf (and others!).[485]

It may be that 1950s singers, not wanting to emphasise these links to tradition, deliberately took the songs at fast tempi in order to forcibly render them in more jagged, more abstract, more obviously modernist terms – we might recall M. J. Grant's observation that the 'referentiality [and] familiarity of the human voice' was 'profoundly problematic for the serial aesthetic'.[486] Alternatively, the second possibility is that fewer vocal recordings exist in total, leading to the disproportionate representation in the data of recordings directed by Boulez and Craft, who have monopolies or near-monopolies on many lesser-recorded Webern vocal works. The vocal slowing trend might then simply reflect their change in approach. However, the works for solo voice and piano have also slowed down. These do not require a conductor and Craft and Boulez are unlikely to have been so directly involved with these performances. We might cautiously conclude, then, that the slowing of the vocal works may reflect a more general style change.

We might also ask why the chamber works have not slowed down. This category includes the string quartets (Opp. 5, 9 and 28) and the Op. 20 Trio, the Op. 22 Quartet and the Opp. 7 and 11 pieces for violin or cello and piano. Duos and string quartets, of course, do not require a conductor and so have largely escaped the strong influence of figures like Boulez and Craft. The idea that chamber music ensembles may be more independent, more idiosyncratic and less governed by general stylistic norms than orchestras or soloists has been suggested on a number of occasions[487] and offers one possible reason for this. While orchestral players and soloists often work with many different performers and must find a stylistic middle ground with them, the members of string quartets develop close working (and personal) relationships with each other over time and tend to have what Richard Turner calls 'an inbuilt resistance to blandness, uniformity, routine or the unthinking acceptance of tradition or example'.[488] The cellist Neil Heyde of the Kreutzer Quartet comments that:

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[485] Personal interview, 2010. Tony Arnold's recording of the Op. 14 songs is discussed in Chapter 6.
[486] Grant (2001), 200. Previously quoted more fully in Chapter 2.
[487] Philip (2004), 104; Turner (2004).
[488] Turner (2004), 271.

> [The] string quartet has quite a strong identity of its own […]. Because its running is generated by a working method established between four players in a quasi-democratic, quasi-autocratic way, maybe it's just a bit more *resistant* to some of those [stylistic] things.[489]

The continuation of the Webern performance tradition for the string quartet works via the members of the Kolisch Quartet is also likely to be very relevant. The Kolisch Quartet had a considerable influence on other quartets and their viola player Eugene Lehner mentored the Juilliard, Parisii and Schoenberg Quartets, who all went on to make recordings of Webern string quartet works. The Juilliard Quartet, which was formed in 1946 and has maintained a remarkably consistent membership since then, has been a particularly influential force over the performance of Webern string quartets – indeed, all twentieth century string chamber music. As Rodney Lister wrote in 1992, the Juilliard members have 'guided the development of practically every young American string quartet over the course of their existence, including the Tokyo, the Emerson, the Concord, the LaSalle, and the Shanghai.'[490] The LaSalle Quartet and their leader Walter Levin have also been influential: no fewer than five quartets – the Artemis, Artis, Alban Berg, Pražák and Parisii – have gone on to make commercial recordings of Webern quartets after studying either with the LaSalle or with Levin personally. In interview, the Vienna-based Artis Quartett firmly situate themselves within a particular strand of Viennese performance tradition: 'an intellectual, analytical tradition stemming from Schoenberg's teaching and represented by people like Rudolf Kolisch and Eduard Steuermann', according to their second violinist, Johannes Meissl.[491] They also attribute their score-focused approach to their extended study with the LaSalle Quartet, particularly Levin, in the USA: 'we went across the Atlantic for something that grew up here but was uprooted and no longer available', says Meissl.[492] As Levin said in a 1972 interview:

> [P]erformances of [Webern's] works for strings seem to have altered less than those for orchestra or piano obviously have. In my view that comes above all from the fact that Kolisch was a particularly excellent performer.[493]

[489] Personal interview, 2007.
[490] Lister (1992), 43.
[491] Glass (unknown year), 441.
[492] Ibid., 441-42. The Artis Quartett's 1999 recording of a passage from Op. 5 no. 5 is discussed in detail in Chapter 4.
[493] Levin, interviewed in Pauli (1984), 267.

1950s recorded performances of the string quartet works do, indeed, seem to sound more stylistically similar to Second Viennese School recordings than orchestral or vocal works or the Piano Variations do. The 1952 and 1959 recordings of Opp. 5 and 9 by the Juilliard Quartet, for example, adopt the legato lines of the Second Viennese School tradition. In the 1959 recording of the second of the Op. 5 string quartet pieces by the Juilliard Quartet [Example 14 and Audio 35], the melody line – passed between viola, second and first violin – is performed extremely expressively and very slowly (around quaver = 40 for the opening phrase, rather than the quaver = 56 given in the score). The viola player, Raphael Hillyer, plays the melody in the first five bars with a remarkably pre-war sound: fast, shallow vibrato and touches of portamento on the shifts. This could be a direct result of Lehner's influence. Or it could be a reflection of Hillyer's own background: born in 1914, he may have remembered this playing style from childhood and thought it appropriate for this passage. The texture of Op. 5 no. 2 is obviously that of melody plus accompaniment and invites an especially lyrical performance – the opening viola melody is marked 'mit zartestem Ausdruck' [with the most tender expression].[494] However, when one compares the Juilliards' recording with that of the Craft set ensemble [Audio 36] – who interpret the notated rhythmic values far more literally, take the movement at the faster tempo of quaver = 66 and virtually ignore the pause in bar 2 – one can see, firstly, that such an expressive approach is far from inevitable and, secondly, hear just how far the Juilliards were in 1959 from the dominant 1950s Darmstadt style.[495] It seems that this Darmstadt style never had to be rejected by most string quartet players, though, because it was never adopted in the first place.

3.2.3. Rubato

Although the 1950s Craft and Boulez performances are not entirely metronomic – of course, no human performance can be – the magnitude of their timing fluctuations is

[494] It is interesting to speculate on how the Juilliards might have performed a less overtly lyrical Webern work such as the Op. 28 Quartet during the 1950s. They did not record Op. 28 commercially until 1970 (for the Boulez set), although a sizeable number of recordings of live performances of the Juilliards playing Second Viennese School quartets, including three of Op. 28, were made for broadcasts from the Library of Congress Music Concert Series from 1957 to 2000. These recordings are currently in the Library of Congress, where the Juilliards have been quartet in residence since 1962. Unfortunately, I was not able to access them for this thesis.

[495] The (unnamed) ensemble who played the string quartet works on the Craft set was a temporary one formed for the purposes of the Webern recordings. Its members were not accustomed to playing with one another as a quartet.

minimal compared with both previous Viennese style performances and recent performances. An impressionistic survey suggests that post-1960s recordings of many Webern works tend to contain increasingly audible local tempo fluctuations. Performers now seem to pay greater attention to the numerous changes of tempo and character notated in the published Webern scores, as well as using more non-notated rubato. The Darmstadt avant-garde could not have been entirely unaware of the notated tempo changes, of course – in the 1960s, Stravinsky expressed his distaste for Webern's '*molto ritenuto, molto espressivo* and "dying away" phrase endings' and the 'touch of cuteness in the vocal music'[496] – so we must assume they were simply choosing to ignore them. Indeed, it is remarkable how a textualist attitude towards performance can falter when what is in the text contradicts one's own intuitions about how the music should go.

For example, in Craft's 2003-04 recording of the second movement of the Concerto, discussed above [Audio 34], the 'calando' and 'sehr getragen' [very sustained] markings and the final 'morendo' in the score are studiously observed, leading to a much greater differentiation and characterisation of phrases and formal sections than in his 1956 recording, where the tempi are more even [Audio 33]. Wintle demonstrates how this movement could be conceived in terms of a traditional sonata form.[497] Craft's more recent recording draws out these echoes of the sonata very strongly: in particular, the coda (bars 69-end) really sounds like an ending, its conclusive character enhanced by the 'sighing' portamento on the violin's E-F dyad in bars 76-77.

As we will see, the empirical analysis of timing in 51 recordings of the Op. 27 Piano Variations in Chapter 5 also suggests that the use of phrase arching in Webern recordings may have increased since the 1950s, at least in this work. Phrase arching, as we saw in Chapter 1, tends to segment the music into structural units arranged hierarchically – short gestures, medium-sized phrases and longer sections – in other words, the traditional formal-structural categories of common-practice music. If it is now considered appropriate for at least some of Webern's works, then this is likely to reflect a more traditional understanding of the music. It is difficult to say whether this phrase arching trend applies to works other than Op. 27; it is possible, for example, that

[496] Stravinsky (1966), xxii.
[497] Wintle (1982), 78.

phrase arching is predominantly a pianists' technique.[498] This could be a topic for further research.

In the Introduction, I defined as 'expressive' fluctuations that are perceived as meaningful by means of their acoustic resemblance to types of real-world motion, often those associated with expressions of emotion through body movements or vocalisations. Timing fluctuations evoke these motional and emotional patterns, which is why rubato is associated with espressivo. We might link the apparent increase in large-scale fluctuations and smaller-scale tempo rubato to the understanding of Webern's music in increasingly expressive terms.

3.2.4. Neatness

A trend towards tighter ensemble – that is, synchrony between the onsets of theoretically simultaneous notes – may be detected in recent Webern recordings, reflecting a general trend across the twentieth century towards neater, tidier performances. The following passage from the Staatskapelle Dresden's recording of the Variations, Op. 30, conducted by Giuseppe Sinopoli, achieves pinpoint synchronization between the ostinato chords [Audio 37]. One might perhaps consider some passages in the early 1950s recordings by Leibowitz and the Kolisch Quartet a little messy around the edges by today's standards[499] (which may be related to their fairly heavy rubato), although the difference is not huge, since most of the stylistic 'tidying up' had already taken place in the 1930s and 1940s. The Kolisch Quartet's approach was very precise for their time, but the criteria for precision have continued to shift since then. In 1966, Stravinsky criticised their recording of the Op. 9 *Bagatelles* (on Dial 7), saying that though 'the performers were the highest authorities, the ideal interpreters from the very *sanctum sanctorum* of the composer', their recording 'fails even on the level of accuracy'.[500] The influence of a Stravinskian aesthetic of accuracy and precision may be one reason why performances have become neater; another may be the influence of recordings themselves. When listening to a recording over and over again, mistakes that

[498] Most studies of phrase arching have examined pianists. See for example Todd (1985, 1989, 1992) and Repp (1992). However, it is not exclusively a pianists's technique: we may remember that phrase arches also appear in the timing graphs of all three orchestral recordings of the Schubert Dances discussed in Chapter 1.
[499] The same may be said of Boulez's 1956 recordings and Stadlen's 1948 recording of Op. 27, both live and unedited performances.
[500] Stravinsky (1966), xxiv-xxv.

perhaps would not even have been detected in a live performance become obvious and often progressively more irritating.[501] Recordings can also be edited to remove these mistakes: over the last 50 years, piecing together a 'perfect' performance in the studio from multiple takes has become ever easier. The influence of this on Webern recordings is debatable. While ensembles have certainly become tighter, basic pitch accuracy does not appear to have improved much since the 1950s, interestingly. A broad subjective assessment suggests there are still considerably more pitch errors in Webern than in recordings of tonal music, in which they would be more obvious. The lack of improvement may be because standards of pitch accuracy in 1950s Darmstadt-style Webern recordings were already very high: there are few pitch errors in the Craft set and those that remain are meticulously listed in the sleeve note, revealing a certain preoccupation with hitting the right notes.[502] Furthermore, editing has not entirely eliminated pitch mistakes, but sometimes even creates its own: in Christopher Oldfather's recording of the first movement of the Op. 27 Variations on Craft's recent disc, for example, an entire sub-phrase has been accidentally repeated, using two different takes! [Audio 38] [503]

3.2.5. Reverberation

One of the most dramatic changes in the sound of post-1950s Webern recordings is an increase in the amount of reverberation. Reverberation on a recording can be real (a result of the acoustic characteristics of the performance space), artificial, or a mixture of both – artificial reverb is often used by classical recording engineers to supplement natural room reverberation.[504] Reverberation softens sounds and gives them a sense of 'space', often creating the impression that the sound is further away from the listener. It can create lush, well-blended vertical textures and enhance horizontal connections by blurring or smearing sounds into one another.[505] Sound reverberating in a large natural space is less 'bright' than direct sound, due to the absorption of high frequencies by the air. The amount of reverberation on a recording is affected by microphone placement.

[501] Although given enough repetitions, one can reach a zen-like state in which familiar mistakes are simply accepted as part of the piece.
[502] Craft (1957b), 29.
[503] Naxos 8.557530. This recording is not timed in Chapter 3, nor analysed in Chapter 5, because of this editing mistake.
[504] Hallifax (2004), 113.
[505] Up to a point: too much reverberation will blur the lines too much, obscuring their horizontal connections.

Close microphone placement captures more direct than ambient sound, making the sound seem closer to the listener. Microphones placed further away capture more ambient sound, foregrounding the acoustic properties of the recording space. As a result, closely miked voices or instruments sound tight, clear and intimate and distantly miked instruments sound more blended, diffuse and naturalistic. The inputs from close and distant microphones can be mixed together by the balance engineer to give the desired amount of reverberation.

1950s Webern recordings are typically very dry, likely due to the then-common practice of close miking and to the use of small recording studios. Boulez's Domaine musical and Craft's Columbia recordings were both recorded in rather small spaces – Boulez's in the Petit Marigny Théâtre in Paris and Craft's either in the Radio Recorders Studio in Hollywood or the Goldwyn Studios Stage 7, a scoring stage with very dry acoustics.[506] Longer reverberation times can be heard in some of the 1960s and 1970s recordings[507] and most recordings made since the 1980s contain significant reverberation. The recent Naxos set of the recordings of the songs with piano by Svetlana Savenko and Yuri Polubelov, for example, has a reverberation time of several seconds, as can be heard in the following excerpt from the first Op. 12 song 'Der Tag ist Vergangen' [Audio 39].[508] Reverberation can make a remarkable difference to the sound of different recordings, even where the performance style is similar. For an example, listen first to the Orchestre du Domaine musical's recording of the third movement of the Op. 24 Concerto, conducted by Gilbert Amy in the 1960s [Audio 40] then to the Ensemble Intercontemporain's performance from 1992, conducted by Boulez [Audio 41].[509] Though the articulation in both performances is predominantly staccato, Amy's recording is dry while Boulez's is much more reverberant, considerably softening the music's sharp edges and making the overall sonic impression less harsh, less confrontational, less jarringly modernist.

[506] According to Michael Haslam Gray, these were the only two West Coast recording studios available to Columbia during the 1950s.
[507] Such as Karajan's 1973 and 1974 recordings, recorded in the Philharmonie and Jesus-Christus-Kirche in Berlin. See Audio 19, referenced in Chapter 2.
[508] Recorded at Studio No. 1, Mosfilm, Moscow, engineered and mastered by Alexander Volkov (Naxos 8.570219, 2003-04).
[509] The Boulez was recorded in the IRCAM-Studio. I am unsure as to the recording location or exact year of Amy's performance.

3.2.6. Dynamic range

Recent Webern recordings apparently contain larger dynamic contrasts – louder fortissimos and quieter pianissimos – than 1950s and 1960s recordings. However, dynamics in recordings are difficult to discuss reliably without concrete knowledge of the details of microphone placement, balancing, recording formats, recording space acoustics, and so forth – which is beyond the scope of this study. With that caveat in mind, we might speculate that the expanded dynamic range may relate to the introduction of digital formats, which can reproduce a very wide dynamic range: the CD has a dynamic range of almost 100 decibels – more than a symphony orchestra (about 80 decibels) – while the LP has a dynamic range of only 50-60 decibels.[510] The early expressionist pieces of Webern present sound engineers with a particular challenge since most of the music lies towards the very soft end of the dynamic spectrum but dynamic peaks can be quite sudden and extremely loud. The fourth piece of Op. 6, for example, with its *ppp* opening and huge *ff* brass and percussion climax at the end, offers about as much dynamic contrast as it is possible for an orchestra to achieve. 1950s recordings of Op. 6 no. 4, such as Craft's 1956 recording, achieve much less audible contrast between the beginning and the end than later digital recordings such as Christoph von Dohnányi's 1992 recording with the Cleveland Orchestra. In Craft's recording, the opening is only moderately quiet and the ending moderately loud (*p* and *f*) [Audio 42]. When listening at a normal volume to Dohnányi's recording, however, the opening is barely audible but the ending is rather terrifyingly loud (*ppp* and *ff* or even *fff*) [Audio 43].[511]

Part of the difference in perceived loudness may be to do with the timbral qualities of the recordings. Craft's recording has a crisp, treble-dominated overall sound, while Dohnányi's recording is far more bass-heavy. This can be seen in Figure 6, which shows their spectra during the loud percussion climax at the end. Craft's recording (6a) has little power in the bass between 30 and 150Hz, but a peak in the low mid-range between about 150 and 500Hz, resulting in a superficially loud but

[510] Figures taken from Hallifax (2004), 129. As Hallifax points out, reproducing the full dynamic range of a symphony orchestra in recordings is impractical (it would lead to listeners constantly turning the volume up and down), so in most classical recordings it is reduced by manual manipulation of the microphone inputs by the balance engineer.

[511] Please do not turn the volume up too high when listening the beginning as the ending will be very loud!

insubstantial sound, while Dohnányi's (6b) has fewer peaks but far more overall power at the bass end, creating a powerful rumble.[512]

We saw in Chapter 2 that Craft had to take responsibility for the engineering of the 1957 Webern set himself, so we can attribute these aspects of the sound to him (as well as to the performers, recording studio and equipment). However, a treble-dominated sound is characteristic of 1950s recordings more generally. 1950s sound engineers would often use equalizers to boost the 'presence range' of recordings (roughly 4-6kHz),[513] which makes the music sound closer to the listener (because mid-range and treble frequencies do not 'carry' as far as bass frequencies)[514] and increases the perceptual loudness of the quietest sounds. This is because the human ear is very sensitive to high-mid-range frequencies (1-5kHz),[515] and when these are boosted, very quiet sounds sound more distinct. When used in combination with volume limiters for the loudest sounds, this can have the effect of decreasing the perceived dynamic range of the recording.[516]

One reason 1950s engineers may have wanted to boost the apparent loudness of quiet passages was to allow them to be audible over the hiss of analogue tape and the clicks and pops of LP surface noise. There is no need to do this in silent digital recordings, in which any remaining low-level noise comes from the recording venue rather than the medium. On digital recordings, extremely soft passages can be heard clearly in a way they often cannot in an analogue recording – or even in a live concert. Boulez wrote in 1961 that the expressionist miniatures Opp. 9-11 are:

> [Q]uite hard to present in concert, partly because of their brevity but more because their narrow dynamic range involves nuances at the limit of audibility. […] They sometimes pose a fundamental problem of perception: in a large hall, for example, ambient noise alone tends to cover music of such restrained dynamic.[517]

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[512] Dohnányi's performance was recorded in Severance Hall in Cleveland, Ohio – a large space around which bass frequencies can reverberate. Craft's recordings were probably made in smaller spaces, as mentioned above. The peak in the Craft graph between 10 and 30 Hz is likely to be vinyl rumble.
[513] See Barry (2010), 130.
[514] Hodgson (2010), 286.
[515] Sensitivity to sound intensity tails off sharply at the low end of the audible frequency range and more gradually at the high end, in a pattern known as the Fletcher-Munson curve. See Fletcher and Munson (1933).
[516] Barry (2010), 130.
[517] Boulez (1961), 295.

With digital recording, this problem disappears. The numerous very quiet passages in Webern scores marked 'kaum hörbar' [barely audible] can now actually be played back at the threshold of audibility and the endings of the many Webern works that fade away – such as Op. 6 no. 6, Op. 7 no. 3, Op. 9 no. 4 or Op. 10 no. 3 – now fade into silence (or near-silence), rather than crackle. As an online reviewer of Boulez's 2000 Webern album wrote: '[I]f ever a composer was born for CD, it's Webern. The pianissimos are more *ppp* than ever, thanks to better recording techniques.'[518] This may affect the actual performance: with sensitive microphones and a silent recording space, musicians can often play more quietly on recordings than they ever can in a live concert, when they would have to project more in order to be heard. Michael Haas writes that:

> [I]n the studio, a crescendo can begin from total silence. In concert, a pianissimo requires more sound to be heard […] The most crucial rule in the studio is that *maximum effect is achieved by extremes of the achievable*. In other words, it is impossible to record the loudest *forte* an orchestra can play, but it is not impossible to record the softest pianissimo.[519]

According to Tony Arnold:

> In audio recording […] there are elements of extreme sonic subtlety to be engaged that are clearly not available in most concert situations. For instance, in recording I can sing much softer or color a phrase in a nuanced way that sounds good up close, but the detail of which is lost in a larger performance space.[520]

The near-silent background of digital recordings allows quieter harmonics and reverberations to be heard, creating a recorded sound that can be lusher and more full-bodied in some passages and more delicate and insubstantial in others. The beauty of tone and smooth surfaces in modern recordings of Webern can be astonishing, as in Christiane Oelze's 1992 recording of Op. 16 no. 2 on the second Boulez set [Audio 44]. Very refined and delicate timbres – especially the col legno, sul tasto or sul ponticello passages in the works for stringed instruments – are also better reproduced in digital recordings. With a silent background, the triple-pianissimo rarefied timbres of Webern's early expressionist works (especially Opp. 5, 7, and 9) can be played extremely quietly, with barely any voicing. Two examples from the end of the fourth piece for violin and piano, Op. 7, illustrate this well. In the two descending phrases in bars 13-15 [Example

[518] 'Lexo-2' (2000).
[519] Haas (2003), 29. Emphasis original.
[520] Personal interview, 2010.

15], the violin is instructed to play 'am Steg' (col legno). The passage is marked *pp*, moving to *ppp*, and 'wie ein Hauch' [like a breath]. In Ralph Schaeffer and Leonard Stein's 1954 recording on the Craft set [Audio 45], Schaeffer's notes are almost fully 'voiced' and the fundamental of each pitch is clearly audible. Indeed, in his sleeve note to the Webern set, Craft stresses the need for pitch clarity: '[E]verything must be heard, not merely an impression of *Klangfarben* or structure or design, but the actual pitches of all the notes.'[521] On Craft's Webern set, you can hear the actual pitches of all the notes (even if they sometimes sound scratchy and hard-won) but some more recent recordings of the quiet passages in the early expressionist pieces, one often hears nothing but a timbral whisper, a tiny ghost of a note brushing against the limits of audibility. Compare Schaeffer and Stein's recording with Irvine Arditti and Stefan Litwin's 1994 recording of the same passage from Op. 7 no. 4 [Audio 46]. Arditti's notes here have barely a fundamental but are mostly high harmonics and string and wood noise, producing a silvery, spectral effect. An effect, in fact, like a breath. As we will see in 3.4., such things may be linked to the shift in emphasis in the classical music world after the 1950s from the ideal of structural clarity to one of a vivid, colourful surface: a shift in musical focus from pitch structure to timbral effect – from 'notes' to 'sounds' – both reflected in and encouraged by the better technical reproduction of recordings. Aesthetics and technology are, in this case, not clearly separable.

3.2.7. Summary of trends

Specific acoustic changes in Webern recordings over the last half a century have created modern recorded performances that sound more lyrical and more expressive than the 1950s recordings. The general trends listed above describe changes observed over many Webern recordings, both empirically and impressionistically. However, the separation of these trends is artificial: sound parameters are interconnected in both perceptual and practical ways, as will be explored below. They not be statistically independent either: it could be that the greater rubato in recent recordings is connected to their slower average tempi, since pauses at phrase ends add considerably to the total duration of a recording. Alternatively, it may be that slower tempi invite more timing flexibility in performance,[522] either due to physical constraints (it is harder to perform metronomically at a very slow tempo) or because of musical convention (works in

[521] Craft (1957b), 8.
[522] Repp (1997) found more expressive timing variation (relative to tempo) at slower tempi.

slower tempi are considered more 'expressive'). The trends relate both to performance style and to recording practices. I shall start by discussing the possible reasons for the changes in performance style – particularly with regard to articulation, timing and tempo – relating them to wider performance-stylistic issues, before going on to discuss the effect of changes in the sound of recordings on Webern's music. Finally, I shall consider how these sonic changes may have changed performance style itself, in a feedback relationship.

3.3. Boulez and Craft

Pierre Boulez and Robert Craft have both exerted great authority over the history of Webern performance. As we have seen, their 'complete Webern' sets of recordings – Boulez's in 1978 and 2000, Craft's in 1957 and 2005-09 – encompass virtually the whole period of Webern recording and exemplify the transition in Webern performance style from pointillism to a clean, vividly colourful modern sound. The Craft set was hugely influential, as we saw, but Boulez's two sets were probably even more so. As Timothy Day wrote in 2000:

> Pierre Boulez has been an advocate for this music over five decades and his performances have chronicled the evolution of the performing style, or, it may be truer to say, he has discovered in this music a different kind of expressiveness in performances of such power and authority that they have been taken as the starting-point for others' explorations.[523]

Arnold Whittall writes of how Boulez's Webern recordings move from the 'incisive' CBS recordings to his 'present "late" style' in which the smoothed edges 'deprive […] Webern of some of his power to shock'.[524] As we will see, this 'late style' is the result of Boulez's practical performance experience and long familiarity with the music of Webern, but also relates to changes in his conducting and general aesthetic approach that, as Daniel Leech-Wilkinson has argued, are also audible in his compositional style.[525] The revolution in the way Boulez conducted and thought about Webern, the results of which can be heard in the vast differences between the Domaine musical recordings and the CBS set and to a lesser extent between the CBS and Sony sets, was,

[523] Day (2000), 180.
[524] Whittall (1997), 60.
[525] Leech-Wilkinson (2009a).

as Timothy Day writes, 'as much a radical revolution in his own creative thinking as in his re-creative ideas, and clearly the two are inseparable'.[526]

Both Boulez and Craft have looked back on their respective 1950s Webern recordings as a learning process, both for them and for the players. Already by 1966, Stravinsky could describe them as 'mere curiosities […] studies of the performance limitations (and possibilities) of the time rather than revelations of the music'.[527] As we saw in Chapter 2, Craft was certainly up against some practical challenges when recording the 1957 Columbia set: the musicians had no previous acquaintance with Webern's style and many of the works had never been recorded (or even performed) before. In the sleeve to the set, Craft describes how:

> The musicians involved in the project, and myself especially, experienced in those two years a profound growth in sensitivity to Webern's language, and a corresponding growth in technique. Thus when we came to the Variations for Orchestra, one of the last pieces recorded, we were able to achieve what I think is our best performance in about one hour of rehearsal and one hour of recording.[528]

He has recently described the Columbia performances as 'woefully inadequate' but points out that 'they helped others to achieve better ones'.[529]

Looking back in 1972 on the early days of the Domaine musical in the 1950s, Boulez, too, said that neither he nor the ensemble players really knew at first how to approach contemporary music from a performance perspective:

> Sometimes we were […] at sea when confronted by some particular piece of music – Webern, Nono or Stockhausen – which they were no more used to playing than I was to conducting. Thus we had virtually the same problems – problems of instrumental, technical and even aesthetic assimilation.[530]

Boulez had actually only been conducting for a couple of years when he made his Webern recordings with the Domaine musical in 1956. Talking to Jean Vermeil in 1988, he said that when he started conducting he was 'Very inept. Exceedingly inept. I had no talent – I felt I had no talent for it at all. To tell you the truth, I never really aspired to

[526] Day (2000), 181.
[527] Stravinsky (1966), xxv.
[528] Craft (1957b), 29.
[529] Craft (2006), 80.
[530] Boulez (1976), 78.

become a conductor.' But by 1958 or 1959, he recalls 'my ineptitude had slowly disappeared.'[531] In a 1995 interview, Boulez described a 'radical revolution in [his] thinking about Webern':

> I was always attracted by the organization and structure of the language but I was not at first aware of the expressivity, of the phrasing you have to give – a phrasing which goes with the dynamic and the rhythm. When I listened to my early performances I began to think them terribly stiff, disorganized. It is the continuity which is all-important. […] The audience should be able to *follow* – maybe not every note but certainly the trajectory of the music. And that's not easy, not for them, nor for the musicians, until they are *familiar* with the language.[532]

It is worth remembering that Boulez's most outrageously provocative statements about Webern – that he was the 'threshold', that all composers who did not understand his 'ineluctable necessity' were 'useless' – were made in the early 1950s at a time when he had no experience of conducting the music, indeed no conducting experience at all. Their tone begins to change after 1954, the year he started conducting.[533] At this point, he had already begun to reject the 'pointillist' style of total serialism. In a 1954 essay 'Current Investigations', he wrote that although the rejection of thematicism was 'justified', it was 'a rather naïve idea of "composition" to cast a simple hierarchy or organization in the role previously filled by thematic relationships'.[534] He also renounced the idea that Webern had been a precursor to total or integral serialism:

> Webern only organized pitch; we organize rhythm, timbre, dynamics; everything is grist to this monstrous all-purpose mill, and we had better abandon it quickly if we are not to be condemned to deafness. One soon realizes that composition and organization cannot be confused without falling into a maniacal inanity, undreamt of by Webern himself.[535]

In 1961, he described Webern's innovations not just in structural terms, but also in terms of 'the physical and gestural aspects of performance'.[536] In 1972, he attacked the 1950s performances of Webern as prioritising 'intellect' above 'sense' and so 'stupid': 'Instruments became ugly and took on an aggressive colour; there was a complete lack of continuity between the instruments, no flexibility in the structures, and no feeling of transition from one part of the work to another.' Instead, he said:

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[531] Vermeil (1996), 20.
[532] Plaistow (1995), 14. Emphasis original.
[533] See Vermeil (1996), 20.
[534] Boulez (1954), 16-17.
[535] Ibid., 16.
[536] Boulez (1961), 295.

> You have to discover how an instrumentalist can play an isolated sound in a way that links it *intelligently* with what has gone before and what follows. You must make him understand a pointillistic phrasing, not just with his intellect but with his physical senses. […] This is why those earlier performances of Webern had seemed idiotic to me: the musicians did not understand their roles, they played stupidly, and this was reflected in the resulting sonority, which also became stupid. An instrumental player produces an interesting sonority when he is a part of a whole whose constituent parts he more or less consciously understands.'[537]

For Boulez, the performance problems raised by Webern's music were not technical – 'in Webern there are hardly any difficulties of this mechanical kind', he said – but to do with understanding the role of the parts within the whole and communicating this holistic understanding through phrasing.[538] Indeed Boulez seems to have gradually moved towards a more traditional, Schoenbergian notion of phrasing as the key to formal comprehensibility. In 1988, he said:

> Phrasing is an element of continuity, of distinction between structures, as its name indicates. […] Phrasing consists of showing […] that the structure of a phrase – for example, the structure of a melodic phrase – hinges on several important points, that it has a certain drive, that it follows a momentum and trails off again, that, in effect, it really follows a curve. […] To speak of Webern is to speak of the articulation of form, in other words, the phrasing of form, and this is the most important aspect. If one doesn't indicate this articulation of form, then the form becomes incomprehensible.[539]

Boulez's principal explanation of his style change is that in the 1950s he and the players lacked the expertise or knowledge of the repertoire necessary to understand the importance of deliberately joining together the disparate note groups in Webern's music. It is certainly the case that over the 1950s and 60s, more and more performers were becoming aware of new music and learning how to play it. Humphrey Searle said in a 1972 radio talk that:

> Until fairly recently it was very difficult to get a reasonable performance of difficult or avant-garde music. […] It was extremely difficult to find performers who could cope with the music of this century, and even if they could play or sing the notes, often had very little idea of how to interpret them. As a result, their performances of modern works were received with apathy, or even hostility by audiences and critics.[540]

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[537] Boulez (1976), 79.
[538] Ibid., 79. Boulez makes similar comments on performing Webern in Vermeil (1996), 83 and Boulez (2005).
[539] Vermeil (1996), 83-84.
[540] Searle (1972).

Searle names the growth in the number of performing groups and concert organisations devoted to new music, the rise in commissions for living composers, the active support of the BBC in Britain and the fact new music was beginning to be taught in colleges as reasons for the improvement of the situation by the early 1970s. A growing number of performers came to specialise in new music, following in the footsteps of Leibowitz, Rosbaud, Boulez, Craft and others. Cerha describes how he came to reject the 'pointillist' approach to Webern performance through conducting the works himself with his ensemble 'die reihe' from the late 1950s onwards.[541] As Webern's music gained mainstream acceptability, some works came to be played by performers, such as Karajan, who did not normally specialise in contemporary music. In 1975, Karajan wrote of the difficulties of 'getting to grips with' Second Viennese School works, but said the solution lay in orchestral players learning to let go of the notation and internalize the music instead, making it possible to play more expressively:

> Ninety per-cent of the musicians are adjusted visually to the notes, and don't hear what is being played on all sides of them. That comes only when the players' own parts have become so imprinted in their minds that they can raise their eyes from the scores. You will never achieve a true pianissimo from an orchestra as long as the musicians must be looking down at these. At the moment when they can concentrate on the music, it comes automatically, and with great depth of expression.[542]

Peter Stadlen wrote in 1958 that 'an authentic performance of a Webern score is impossible without direct tradition'.[543] Indeed, his notation is not easy to interpret. The scores cannot be read literally and in fact are rather idealistic documents, but this is not immediately obvious. As we saw in Chapter 1, Webern was a sensitive and expert performer who revised his scores in response to performances, but he never saw many of his works performed and never had a chance to test his ideals against reality. For him, the two were so often in tension. This is the reason for the misleadingly bare appearance of the late scores. It is also the reason for their fast tempi: the pianist John McCabe speaks of Webern's 'idealised tempi' – the fast works too fast and the slow ones too slow.[544] Craft's tempi are fast but are often closer to Webern's than more expressive performances (and, as we saw in Chapter 1, in most cases neither the notated tempi nor the performed tempi add up to the durations Webern wrote on the scores). We saw in the previous chapter that some of the articulation marks in the Op. 27

[541] Cerha (2001).
[542] Karajan (1975).
[543] Stadlen (1958a), 14.
[544] McCabe in Hill et al (2003), 27.

performance score are 'irrational' or difficult to interpret. This applies to the official published scores, too. Cerha writes that '[o]ne could perhaps make fun of the extent of the articulation marks in Webern', some of which are 'difficult or impossible to realise', although he believes that 'in most cases, passable solutions can be found with the appropriate effort'.[545] He gives an example from Op. 10/1, bar 9 [Example 16]. Here, a crescendo is marked underneath both semiquavers in the harp part. The first is given a marcato, and both are staccato. The difficulty is that if one performs the crescendo, one weakens the marcato on the first note and if one does the marcato, then the second note is weaker. The solution, he proposes, is for the harpist to play the first A near the soundboard [am Tisch], and the second normally, but louder than the first, producing a sharp sound on the first note with the effect of marcato, but realising the crescendo at the same time. Whether such a precisely differentiated articulation could ever be audible, however, is perhaps questionable: it is certainly not in any of the recordings of this piece that I have heard, since the trumpet A that doubles the first harp note tends to almost completely mask it, achieving the accentuating effect a marcato would have anyway but making the contribution of the harp's articulation utterly negligible. The only recording where the first harp note is audible over the trumpet is Abbado's exceptionally well produced 1990 recording with the VPO, but here the second harp note is apparently missing [Audio 47]. We could conclude that the recordings are at fault. Alternatively, we could conclude that Webern's demands here are somewhat unrealistically precise.

Some of Webern's rhythmic and metrical ideas are similarly difficult to realise. The abundance of rests creates syncopations and displaced pulses, enhanced by changes in time signature and notated tempo and many works begin with a downbeat rest.[546] Moreover, the notated metre can exist in a rather abstract relationship to the surface. In the sixth movement of the Op. 31 Cantata [Example 9] the opening silent downbeat occurs in a 2/2 bar, whereupon the metre immediately changes to 3/2 in the next bar. Why not just start in 3/2? Webern must have felt the single inaudible downbeat in the 2/2 bar to be important, although it cannot be heard in recordings. When listening to many Webern recordings, without having seen a score, it can be very difficult to tell

[545] 'Man hat sich gelegentlich lustig gemacht über das Ausmaß an Artikulationszeichen im Werk Weberns. Mir erscheint der exakte Hinweis auf die Vorstellung, der durch sie gegeben ist, wichtiger als die Tatsache, dass sie mitunter schwer oder kaum zu realisieren sind. Zumeist lassen sich aber bei entsprechendem Bemühen passabel Lösungen finden.' Cerha (2001), 172.
[546] Examples include Op. 6/5, Op. 10/5, Op. 21/1 and Op. 29/1 as well as Op. 27/1 (see Chapter 5).

how many beats are in a bar or even where the first downbeat occurs.[547] In 1966, Stravinsky noted the Webernian characteristic of the 'silent or suspended beat with the notes on the anacrusis', adding that in passages like the final 12 bars of the Op. 27 Variations, many think its use 'mere Papiermusik'.[548] In this final passage (actually 11 bars) of the third movement [Example 17], not a single onset occurs on the first beat of the bar and the metre would be impossible to detect from listening alone, as this example from Ingrid Karlen's 1996 recording may demonstrate [Audio 48]. The 'ritardando' and 'a tempo' markings in bars 60-61 and 65-66 make the metre even more abstract. Further, Stadlen tells us that Webern also wanted extreme rubato! In the introduction to the Op. 27 performance score, he talks of Webern's 'curious relationship with musical time':

> He experienced fluctuations of tempo even during rests and would, for example, every time we arrived at the empty bar […] 44 [in the third movement of the Op. 27 Variations] continue the preceding acceleration by excitedly shouting "one, two, three!"; only then did he indicate, silently, the fermata over the following bar line.[549]

Whether the metrical 'games' played by Webern have any audible effect on recordings is as questionable as whether the precise articulations do. In live concerts, they could be communicated gesturally: a silent downbeat, for example, could be communicated to an audience by a movement of the head or shoulders. But this is impossible in recordings – an important limitation of the medium.

Such things indicate, then, that Webern's scores – even more than most music – are not to be read literally but must be creatively, even exaggeratedly interpreted. Boulez and other performers have reached this conclusion through experience, Boulez writing in the foreword to his 2000 set that Webern's 'severe writing must be invigorated, even exalted by a sensitivity in performance'.[550] We can, therefore, partly attribute Boulez's change in Webern performance style and his parallel change in thinking about Webern to the fact that, since the 1950s, he and other performers have simply been discovering how to interpret the score more freely as part of becoming more familiar with the music, just as he claimed.

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[547] Rests, by definition, cannot be heard directly, although their metrical position may exert an influence on the performance of surrounding notes.
[548] Stravinsky (1966), xxiii.
[549] Stadlen (1979). This empty bar – with Webern's 'eins, zwei, drei!' written over the top – can be seen in the performance score [Example 18].
[550] Boulez (1999).

But this is not the only reason for his change in Webern conducting style. Or rather, we can see the process of gaining expertise with Webern as part of a wider technical and stylistic shift. Daniel Leech-Wilkinson describes a 'slow but as yet undeviating' change in the way Boulez's conducted his own works away from a pointillistic towards a more continuous sound.[551] Indeed, his stylistic comparison of two recordings of Boulez conducting his own *Pli selon Pli* (1957-1962) in 1969 and 2001 could apply just as easily to the first and second Webern sets:

> In 1969 we get individual musical gestures one by one, with spaces between them. By contrast, in the most recent recording from 2001 the events are arranged so that one gesture is rounded off by the next, and several are run together, all adding up to a much greater sense of continuity.[552]

The compositions themselves also changed over this period in the same ways:

> [T]ransforming a focus on points in the early 1950s into one on lines and elaborated harmony increasingly since the late 70s, mingled with a tendency ever more towards tremolos and cascades of bright sounds which tie together continuity with precision. It's not so much that Boulez becomes a melodist, then; more that he develops an increasing fascination with sound, as opposed to notes.[553]

The relationship between an influential single artist and their cultural context is one of feedback and mutual influence: they both shape and react to the total artistic situation at any given time. As we will see in the next section, Boulez's growing preoccupation with sound, rather than notes, is symptomatic of a more general transition in Western art music of the second half of the twentieth century.

3.4. Modern and postmodern performance styles

As we have seen, Webern performances of the 1950s were affected by textualism, by the literalistic approach to the score advocated by Stravinsky and Toscanini. Stravinsky's close involvement with Craft's 1957 Webern set is probably very significant. We saw earlier that the Webern recordings were made in leftover Stravinsky studio time and that the composer sat in the control room while the recordings were

[551] Leech-Wilkinson (2009a), 794.
[552] Ibid. The recordings referred to are on CBS Diamond Cut, DC 40173 (recorded 1969, issued 1970) and Deutsche Grammophon 471 344-2 (recorded Jan/Feb 2001, issued 2002).
[553] Leech-Wilkinson (2009a), 795.

being made. We also saw that Stravinsky shared Boulez, Stockhausen and Eimert's view that Webern's music – introduced to him by Craft – was radically new and pointed the way forward; indeed it seems to have pointed the way forward for Stravinsky in a very direct way. In 1979, Alan Rich suggested that Craft's 'purpose […] conscious or otherwise', was to demonstrate continuity between 'the aesthetic of Stravinsky and that of Viennese atonality'.[554] Rich, who disliked the Craft album, called this connection 'implausible', but it was not thought to be so in the 1950s, when Stravinskian ideas – musical works were quasi-geometric, objective structures that did not require interpreting – were transplanted wholesale onto Webern. Over the 1970s and 1980s, this kind of ideology was beginning to be seen as increasingly problematic for Webern. By 1990, Robin Maconie could write that his works 'cannot survive technically accurate performances which lack a strong emotional charge'.[555]

Stadlen's Op. 27 performance score has also been a very important influence on Webern performance practice since its publication in 1979. In 1983, Robert Black described it as 'an extraordinary document, one which should radically alter the performance style, not only of this work, but of all the later Webern scores.' Until its appearance, he claimed, 'no precise knowledge of Webern's secret demands could be shared'.[556] Although this is not quite accurate – a Webern performance tradition already existed for the string quartet works via the Kolisch and Juilliard Quartets and Stadlen had been arguing for an expressive approach since the 1950s – it is certainly the case that the performance score helped make these 'secret demands' baldly apparent on the page, thus helping to destroy the textualist approach (although one might also counter that it helped appease those for whom only a score would really do). Could it be that, as suggested in the previous chapter, with the Op. 27 performance score, the voices of the exiled Viennese Webern performance tradition finally began to be listened to?

There may be at least some truth to this. However, Stadlen's score was only published in the late 1970s and we can hear from the Webern recordings of Boulez, and others, that performance style had already changed significantly by then. It seems more likely that the Op. 27 performance score represented an approach – focused on linear continuity, phrasing and colour – that performers had already begun to discover for themselves and to which they were far more sympathetic than they had been before. The

[554] Rich (1979).
[555] Maconie (1990), 68.
[556] Black (1983), 132-33.

kind of performance style suggested by the score cannot have come as a complete surprise: we have seen that 1950s Darmstadt performers ignored many of the expressive performance marks that do exist on the published scores – the tempo changes, the pauses, the 'molto espressivo' and 'äußerst zart' [very softly and tenderly] markings that crop up all over Webern's scores – as well as disregarding the vocal music, because the sounds they would have produced and the aesthetic attitude they implied were simply not to their taste. There surely must also have been an extent to which they ignored the voices of the Viennese performance tradition in their midst for this reason, too. After all, Stadlen and Adorno hardly kept quiet about Webern during the 1950s and 1960s. Stadlen's 1948 Piano Variations recording was even made from a performance he gave at Darmstadt. While the Vienna tradition was eventually listened to, it seems that this was largely because the time was right. By 1979, understanding Webern's music in expressive terms was an idea whose moment had come.

Why, then, did performers come to accept something like the kind of style outlined in the performance score? Partly experience, as discussed, but also wider changes less specific to Webern. While the mid-twentieth century modernist aesthetic emphasised the material reality of artworks, the purity and regularity and objectivity of their structures, in the second half of the twentieth century, classical performance style and compositions both became more expressive, more focused on 'surface' aspects of sound like texture and timbre, more explicitly gestural and more open to traditional influences. This can be linked to the emergence of postmodernism – in visual art, architecture, design and in music. Minimalism helped reclaim some of the elements – tonal harmonies, obvious repetition – that mid-century serialism had excised from contemporary art music. The emergence of spectralism marked a new preoccupation with sonic colour as a compositional element – composition with sounds, rather than notes. As Martin Zenck pointed out in 1983, the abstract titles of 1950s avant-garde compositions – *Structures, Analysis, Studie, Klangfiguren* and so on – began to be replaced in the 1970s and 1980s by titles evoking again the idea of subjective expression. He names Ulrich Leyendecker's *Con espressione* for orchestra and Wolfgang Rihm's Third String Quartet, subtitled *Im Innersten* [At Heart] as examples.[557] According to Zenck, the music of the 1970s and 80s sought, 'with varying

[557] Zenck (1983), 179.

degrees of success and in either a restorative or progressive sense […] to become part of this conception of music as expression again'. [558]

We saw in Chapters 1 and 2 that classical performance styles of the 1950s became more 'inexpressive' than they had been before the Second World War, with rather metronomic tempi, staccato articulation and terraced dynamics. Modernist performance style – the Darmstadt Webern style – took these characteristics to an extreme. It might be asked whether these recordings of Webern really are 'inexpressive', however. One could argue that they do have affective connotations and communicate a general mood, which might best be summarised as mildly aggressive. In the previous chapter, I described Grace-Lynne Martin's recording of Op. 16/1 and Boulez's 1956 recording of Op. 31/6 in these terms, because, like many 1950s Webern recordings, they seem to have the same acoustic hallmarks – staccato articulation, sharp consonants and rapid tempo – as the speech and body movements of an angry person. Boulez, as we saw, condemned the 'aggressive' instrumental colour of 1950s Webern performances.[559] The pianist Peter Hill described the 1960s performances of the Op. 27 Piano Variations of 'Loriod and others' as 'completely unemotional and even rebarbative […] really fearsome and forbidding'.[560] Was this angry sound intentional? Timothy Day suggests it might have been, writing that the 'hard' sound may have reflected the antagonistic impulse in the avant-garde:

> The performances of the 1950s were for an epoch and for a generation which was concerned to do away with all conventional musical expressive gestures and rhetoric. The assertiveness and roughness and rawness of some of the playing was part of its expressiveness, its defiance, maybe, its determination to strike out along new paths.[561]

The generally fast tempi in the Webern recordings of the 1950s, confirmed by the average tempo analysis in 3.2.2., can be linked to this mood of oppositional defiance. According to Juslin and Laukka (2003), the acoustic hallmarks of the basic emotion 'Anger' in both musical and vocal communication include fast onsets (rapid tempo), high sound level, sharp attacks and lots of high frequency energy. In the Op. 16/1 recording on the first Craft set, it seems that the joyful exuberance implied by the text

[558] 'Die Musik der siebziger und achtziger Jahre sucht – mit wechselndem Glück restaurativ oder weiterführend – dieser Vorstellung der Musik als Ausdruck wieder teilhaftig zu werden.' Zenck (1983), 206.
[559] Boulez (1976), 79. Quoted fully in 3.3. above.
[560] Hill et al (2003), 24.
[561] Day (2000), 184.

came across as more aggressive: indeed many of the acoustic hallmarks of anger are shared with those of happiness, which opens up the potential for confusion (especially, in recordings where gestural cues are missing). The consequences of this for Webern's vocal works are explored further in Chapter 6.

From the 1960s and 70s onwards, however, Webern performances, began to reincorporate more exaggerated tempo and dynamic fluctuations – the traditional hallmarks of expressivity. That is, they became less aggressively inexpressive and more conventional. According to Leech-Wilkinson, we can see modernist performance style as a stylistic splinter group that previously reacted against mainstream classical performance style but has now become reintegrated into it. In this respect, it is similar to the historically informed performance (HIP) style of Roger Norrington and Christopher Hogwood. Both styles adopted a textualist rhetoric and deliberately cultivated the acoustic hallmarks of 'inexpressivity' and oppositionalism: bright timbres, clean articulation, and 'ruthlessly fast and metrical rhythms [that] removed the expressive hallmarks of traditional post-romantic performance'.[562] However:

> HIP performers very quickly became much more expressive, using wide dynamic and rhythmic fluctuation to do deep expressive work. At the same time the next generation of mainstream players and singers began to adopt HIP characteristics – cleaner sound, smaller-scale articulations – until at present it is often hard to tell what one is listening to.[563]

The model he suggests for both HIP and avant-garde performance style is one of convergence towards a flexible mainstream, a middle ground in which all three styles have come to accommodate each other. If forced to describe the current stylistic mainstream, he writes, one might define it in terms of 'pinpoint accuracy coupled with vivid sound and a taste for the striking gesture'[564] – a style that is expressive but never messy.

If we accept this convergence model, then the transition in Webern performance style – or at least the 'Darmstadt' branch of it – from inexpressivity to expressivity makes sense in a wider stylistic context. The change in Webern performance style audible in recordings thus emerges as the result of a number of interrelated factors, some specific to Webern and some more general. The fact that performers were learning

[562] Leech-Wilkinson (2009b), 253.
[563] Ibid.
[564] Leech-Wilkinson (2009a), 795.

how to interpret his scores as part of becoming more familiar with the musical language is, undoubtedly, very important. Thus, the style change emerged partly out of practical engagement with the music. Boulez has played a key role and his general change in approach to conducting and composing – again bound up with his practical experience – has had a key impact on his readings of Webern. Craft seems to have undergone a transformation in style and approach over the half century between his Webern sets that is similar to Boulez's – perhaps even more extreme – although the transitional stages in the process have not been publicly documented in quite the same way. Both these transformations can be seen as part of a broader change in attitudes towards scores occurring as part of a shift from relatively inexpressive to more expressive performing styles in the second half of the twentieth century.

Intuitively, there seems to be a clear link between this broad stylistic shift and the history of Webern reception outlined in Chapter 2. The change in musicological focus described by Kathryn Bailey from 'foreground' serial structure in the 1950s, 60s and 70s to cultural and contextual 'background' in the 80s and 90s is paralleled by a shift away from a style concerned with the individual characteristics of each note and towards one that communicates the expressive resonances and extramusical associations of Webern's music. What Tim Page referred to as the 'mainstreaming' of Webern can surely be heard in recorded performances as well, which have become more conventional and easier to listen to. We can link this to the decline of the modernist idea of art as revolutionary and antagonistic: the idea that it needed to shock the mainstream as part of its moral mission. Indeed, postmodern art lacks the alliance with political progressivism that mid-twentieth-century modernism claimed for itself and has itself engendered a re-evaluation of those claims. As Hermann Danuser writes: 'Today the ideal of modernism as a single-minded drive for progress is no longer credible'.[565] This is why, as we saw in Chapter 2, Webern's politics can be discussed again, and surely also relates to the fact that modernist performance style no longer really exists as it did. The current Webern performance style could be called 'postmodern' in that it rejects Darmstadt modernism, even reacts against it, perhaps, in the same way Webern musicology and criticism currently seems to be reacting so strongly against the avant-garde 'cult' view of Webern.

[565] Danuser (2004), 282.

But which came first: the change in performance style or the change in ideas about Webern held by composers, musicologists and critics? At the end of Chapter 2, I suggested that while the two are in a feedback relationship, performance style was more often the driving force for change than ideas or concepts articulated verbally. Indeed, it is arguable that academic analyses and journalistic commentaries normally lag behind performance. Leech-Wilkinson observes that the changes in the way people wrote about Boulez's music between the 1970s and the 2000s followed changes in performance style 'after some delay'.[566] With Webern the situation seems to be very similar. The change in Webern performance style among avant-garde performers (beginning in the 1960s) did seem to come before the change in musicological focus towards expressivity and lyricism, which did not really begin until the 1980s. We saw that Boulez's theoretical views on Webern began to change after he began to perform his music in the mid-1950s. As discussed in Chapter 2, there were reasons within Webern musicology (the Moldenhauer sources) and musicology in general (the emergence of New Musicology) why ideas about Webern changed as well. Certainly, the release of Moldenhauer's Webern archive influenced performers in a very direct way, simply because it made the pre-opus works available to be played. The extent to which the Moldenhauer sources and scores had a significant effect on Webern performance style on their own – compared with the extent to which they reinforced a general shift in Webern performance style that was already underway by the 1960s – is difficult to say, but I would be more biased towards the latter as an explanation, for two reasons. Firstly, people tend to overstate the importance of specific events or sets of events, like the release of the Moldenhauer manuscripts or Stadlen's performance score, in the grand scheme of things. Partly this is because the notion of a 'revolutionary moment' appears to appeal to the human imagination, and partly because manuscripts and scores are fixed, tangible and far easier to talk about than slippery, generalising notions like style. Secondly, as Leech-Wilkinson suggests, performance style is normally ahead of scholarship, since it is free to evolve more gradually:

> Small changes in approach, mutations if you want to make a genetic analogy, can be introduced unintentionally, unconsciously even, easily and frequently, and can accumulate quite rapidly, free from any framework other than that provided by the notes and past experience. Scholarship is far more constrained by ideologies and by strategies for promotion, which weigh down upon interpretation, so that it becomes a far more complicated affair than manipulating notes in time, pitch and amplitude for expressive effect.

[566] Leech-Wilkinson (2009a), 792.

> Performance shifts all the time; scholarship has to change by revolutions or hardly at all.[567]

Similarly, he comments that performance style tends to evolve more gradually than compositional style since performers are less bound than composers by the need to cultivate a strikingly original voice.[568]

For these reasons, I believe that we can see performance itself, rather than the ideas, as the primary driving force for stylistic change in Webern performance – both because of the growing familiarity of performers with Webern's music and the changing general performance-stylistic background. This is not to say that aesthetics plays no role: the 1950s Darmstadt modernist style did arise quite directly out of theoretical conceptions and compositional ideology, but it also arose out of practical inexperience. Both the style and the rhetoric became more moderate almost as soon as its practitioners gained any real experience of performing the music. Scholarship took a while to catch up with both stages of this process. Again, the model described by Leech-Wilkinson with regard to Boulez could apply equally well to Webern:

> So what we see […] is a process whereby composers inspire a completely new, formalist way of thinking about music, which at first they mirror in their performances. But as their compositional priorities change, so does their performing. Scholarship follows composers into a formalist analytical interest in atonal music, but then with careers set in place and expectations from colleagues and students hard to shift, scholarship takes some considerable time to catch up, only gradually becoming interested in a less formalised approach to scores.[569]

Although I have argued that performance itself changes ideas more than the other way round, I will discuss the possible impacts of a factor that complicates both and has been left largely undiscussed until now – recording technology itself. It will be seen that this has had many effects on the sound of Webern recordings as well as the way we listen to the music. It may even have affected performance style.

[567] Leech-Wilkinson (2009a), 802-03.
[568] Leech-Wilkinson (2009b), 248.
[569] Leech-Wilkinson (2009a), 799.

3.5. Webern and recorded sound

Recording practices have also had a hugely important effect on the sound of Webern on record, as they have on the sound of all recorded music. The most obvious effect has been the trend, noted in 3.2.5. above, towards greater reverberation in post-1950s recordings. There was a general fashion during the 1950s for dry recording acoustics, particularly in some American recording studios. As Michael Haslam Gray observes:

> There was always a difference in 'hall philosophy' in America vs. Europe – The Europeans thought American records were recorded with microphones placed too close to the musicians […] which resulted in the dry sound many critics did not favor.[570]

One such critic was Humphrey Searle, who, reviewing Craft's Webern set in *Music and Letters* in 1957, noted that 'the recording, hard and dry in the usual American manner, tends to take some of the bloom off the music and make it sound more abstract than it really is.'[571] The preference for dry sound in 1950s classical recordings, possibly a hangover from the acoustic era when reverberant sound was more difficult to record well, can also be linked to the 'high fidelity' ideal of audiophile culture. The clarity, precision and 'presence' of dry acoustics – achieved through close miking and the use of small recording spaces – was believed to give 1940s and 1950s classical recordings the 'chamber music' qualities of intimacy and directness. Their aim was to bring the music into the listener's living room, to shrink the distance between auditor and music to zero and, by enhancing internal detail and definition, to encourage 'analytical' listening.[572]

This ideal of documentary verisimilitude, however, was less about fidelity to an actual concert performance and more about fidelity to the musical work. It went so far that it caused classical producers and engineers to create types of sound that were increasingly non-veridical. As Eric D. Barry writes:

> Over the course of the 1950s, audiophiles, musicians, and critics became increasingly comfortable with recording artifices that dispensed with the

[570] Personal communication, July 2010.
[571] Searle (1957), 268.
[572] According to Nick Morgan, the 'analytical' approach to listening was encouraged by the 'music appreciation' movement of the 1910s and 1920s and adopted wholesale by the marketing and educational departments of companies such as the Gramophone Co. (HMV) and Columbia. Personal communication, July 2010.

> documentary ideal. By 1960, the recording art was plainly directed not toward duplicating the sound of an original performance, but toward crafting a soundscape specifically for the home listener. […] For classical music this recording aesthetic was justified because making all the musical voices audible could provide a fidelity to the work – that is, to the score and the intentions of the composer – greater than that of a concert performance.[573]

According to Barry, balance engineers would synthesize close-up perspectives 'in order to create delicate instrumental balances not possible in live performance'.[574] For a listener, hearing all instrumental parts at once at close range is arguably rather similar to viewing a cubist painting, in which one can see all sides of an object at once: both offer perspectives at once comprehensively analytical and totally unrealistic. Indeed, a completely dry acoustic is unnatural and suggests the music is being played not in a real room or hall, but in no space at all.[575]

During the 1960s, however, the ideal shifted from a precise, close sound to a more vividly colourful and reverberant one. This, too, was unrealistic and idealised, but now the ideals had changed.[576] Reverb enhances the affective grandiosity of sonic gestures (by making them sound as though they are taking place in a larger space) and encouraging the listener to luxuriate in sound for its own sake. Alf Björnberg notes '[t]he longstanding connection between reverberant space and the domain of the magical or sacred'.[577] The expressive connotations of reverberation – sensuousness and seductiveness, fluidity, emotionality – are discussed in Rebecca Leydon's study of reverb in 1950s 'mood music'. Reverberation, she argues, is associated with the feminine and with popular musics, which have wholeheartedly embraced artificial reverberation along with all types of creative audio manipulation:

> [T]he hazy, syrupy quality of heavy reverberation has always existed in an uneasy relationship with our dominant musical values […] As a defining characteristic of the hugely successful pop string movement of the 1950s, reverb

[573] Barry, (2010), 120.
[574] Ibid., 118.
[575] Peter Doyle makes a similar point, writing that a world without reverberation would be 'a wholly disorienting, dead, almost spaceless and depthless world'. Doyle (2005), 38.
[576] During this period both producers and musicians became more comfortable with the notion that a recording represented an artificial and idealised sound. Karajan wrote that with his 1975 Schoenberg recordings he envisaged: '[A]n imaginary sound which was never to be heard in concert halls. Only since we made the recordings have I known that this sound exists, not only in the realm of the imagination but also in acoustic reality. It merely requires a most complicated system of mixings. Karajan (1975).
[577] Björnberg (2007), 380.

> was at the same time much maligned by hardcore audiophiles who considered it an imperfection or distortion of authentic sound.[578]

While it would be over-simplistic to suggest that classical recordings in the 1950s kept reverb to a minimum to avoid sounding like Mantovani, there is definitely a sense in which 'serious' music's dominant status depended at the time on distancing itself consciously or unconsciously from the 'kitsch' traits of popular recorded music, like excessive reverb or vocal portamento. Reverberation encouraged subjective immersion, not the distanced apprehension of analytical listening. Leydon describes reverb as 'a kind of surplus – something in *excess* of what we determine to be the sonic *essence*.'[579] The soft focus imprecision of reverberation was very much at odds with the Darmstadt Webern aesthetic, which valued the economy and crystalline purity of Webern's music and its 'scientific' precision. Reverb creates a big, romantic sound – smooth and instantly appealing – which goes against the streak of ascetic denial in avant-garde modernism, its desire to challenge through aggressive sounds and its valuing of intellectual musical structure above sensual surfaces. The increase in reverb in Webern recordings seems to tie in with the idea of producing aurally appealing, audience-friendly sounds to sell records, the gradual demise of the idea that sophisticated ideas should be challenging and the decline of the avant-garde as a self-styled oppositional force, all of which may be termed aspects of the 'postmodern'. Thus, it must surely relate on some level to the 'mainstreaming' and 'romanticisation' of his music described in Chapter 2. An interesting, related possibility suggested by Andrew Hallifax is that there is a connection between the amount of reverb and the perceived age of the music. If dry sounds signify both the temporal and spatial present, then it could be argued that reverberation, by apparently distancing the sound from the listener spatially, also distances it from them temporally as well. Hallifax observes that:

> '[E]ven today there seems to be a persistent idea that contemporary (classical) music requires, or benefits, from a somewhat drier acoustic than more Romantic repertoire. In fact, there seems to be a sort of sliding scale with atonal music at the dry end and HIP baroque wallowing in mushy reverb at the other as though some natural correlation exists between the music's age and its apparent spaciousness.'[580]

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[578] Leydon (2001), 97-98.
[579] Ibid., 99. Italics original.
[580] (Hallifax, personal communication, July 2010.) To adopt Lakoff and Johnson's terminology, this association between age and reverberation rests on the conceptual metaphor OLDER = FURTHER, underpinned by the basic conceptual metaphor TIME = SPACE. See Lakoff and Johnson (1980, 1999).

Other aspects of the recorded sound can also have an effect on the perception of the performance. For example, the apparent strength of voice-leading connections between instruments – and so the success of the Klangfarbenmelodie technique – can be affected by panning as well as microphone placement and balancing. Another example from the opening two bars of Abbado's 1990 recording of Op. 6 no. 1 illustrates this well [Example 19 and Audio 49].[581] Here the single note on muted trumpet appears to follow on quite naturally from the opening four-note flute gesture. The articulation is legato and the dynamic levels and, (as far as possible) timbres of both instruments are relatively continuous – due to reverberation and balancing as well as the performers. Both the flute and trumpet are panned to the centre of the stereo image, reinforcing the perception that they emanate from a single source. In Boulez's 1969 recording with the London Symphony Orchestra, by contrast [Audio 50], the trumpet does not follow on as clearly from the flute. The flute is considerably louder (and apparently more closely miked) than the trumpet but with a duller timbre. The flute also sounds from the centre-right of the stereo space while the trumpet sounds from the far left. Therefore, their relative timbral and dynamic dissimilarity and dispersion in stereo space make it more difficult to hear a linear connection between them.

Changes in the sound of recordings have to do with the way they are recorded and not just the way they are played, therefore, although the two cannot be entirely disconnected. For example, the perception of articulation can be affected by the acoustic as well as the performance, as we saw in the Gilbert Amy and Boulez Concerto examples, and the acoustic characteristics of a recording space may also affect the performers. As Amy Blier-Carruthers has pointed out, reverberation times can affect the choice of tempo: in a dry acoustic one does not have to wait as long for the sound to decay as in a reverberant acoustic, which can encourage players to move on more quickly.[582] Hallifax writes:

> The acoustic in which musicians perform is not merely an appendage to a performance; it's an integral part of it, influencing style, phrasing, tempo and – at a fundamental level – tone production.[583]

The difficulty of precisely disentangling recording from performance-stylistic factors highlights that recordings are the result of a creative process shared between many

[581] It is recommended to listen to the following two audio examples on headphones to hear the stereo effects.
[582] Blier-Carruthers (2009), 214.
[583] Hallifax (2004), 111.

people – producer and sound engineer as well as performer and composer – and mediated by technology at every stage. Acoustic characteristics of the recorded sound may have more relevance to how the music is experienced by listeners than we might at first acknowledge – in some circumstances they could even be more important than performance style. Recording practices also evolve stylistically, just like performance style, except their evolution is far more directly bound up with developments in technology. The increase in reverberation in post-1950s Webern recordings, for example, may have been due more to general changes in studio fashion and recording practices (driven by both the increasing acceptability of a reverberant acoustic and the possibility of applying artificial reverb) than changes in response to Webern's music specifically. This does not mean that one cannot know anything about changes in performance style through recordings, but it does mean that if one is taking recordings as one's primary evidence, one cannot always say with certainty whether a certain feature may be attributed to the performance or to the recording. Without detailed knowledge of the recording process, it is very difficult to know how much of the end result can be attributed to the performers or conductor versus the producer and engineers (or the acoustic, or even the type of instruments), but we should bear in mind the possibility that performers may not always be in the driving seat, particularly when one is talking about dynamics, instrumental balance and reverberation (and so texture and timbre). Although the conductor normally has a significant amount of control over the location of a recording and over some aspects of its engineering (in Craft's case, all aspects, since he did the engineering himself) and issues like the amount of reverberation can be the result of his or her deliberate aesthetic choice,[584] often they are not.

Recently, many have suggested that recordings and performance style are in a feedback relationship, that recordings themselves have affected the evolution of twentieth-century performance styles as well as listening habits.[585] For example, they may encourage stylistic homogenisation (because everyone can listen to and imitate everyone else's recordings) and, as Michael Chanan points out, lead to the erosion of performance traditions, 'reducing the idea of a traditional style of performance to a

[584] It may be significant that the Vienna tradition recordings of the 1950s – particularly Leibowitz's Dial recordings and Hans Rosbaud's 1957 recording of Op. 6 – do not have the dry acoustic of Boulez's and Craft's. The linearity of the performance style is enhanced by the reverberation.

[585] See Chanan (1995), Clarke (2002b and 2007); Philip (2004); Katz (2004 and 2006); Gritten (2008); Fabian (2008).

chimera'.[586] The repeatability and fixedness of recordings can create 'authoritative' versions of musical works, especially with new music where there are typically few recorded versions available; this seems to have happened with Webern with both the first Craft and Boulez sets, particularly the Craft set, which for so many in the 1950s and 60s became the blueprint for 'how the music went'. Using this model, we might suggest that the Craft set contributed to the weakening of the Viennese Webern performance tradition, while the Boulez set instigated a new one.

There are, however, several ways in which Webern's music has benefited from being recorded. Indeed, there are some senses in which one might argue his music is better communicated through recordings than through live performances. The first has to do with the compactness and concentration of his works, which presents concert programmers with a problem; Craft names this as one of the main reasons why more of Webern's music has not entered the repertory.[587] All-Webern concerts are difficult to assemble, he writes: the orchestral pieces are too short to fill an evening and singers can only attempt a limited number of the technically challenging vocal works in one go, so Webern tends to get uncomfortably 'slotted in between other things'.[588] However, Craft names 'the juxtaposition of "old music" of the highest quality that is often also intricate' as one possible solution – an approach taken in some recent recorded compilations, as we saw in Chapter 2. It should be noted that these kinds of programming issues do not apply to studio recordings, which are neither recorded nor listened to (usually) all in one go. This is one reason why Webern's music is arguably better experienced recorded than live.

A second reason relates to the repeatability afforded by recordings. We have emphatically rejected the modernist idea that for something to be valuable it has to be new and, probably, difficult to understand. Nonetheless, much of Webern's later music simply is not easy to listen to – the second movement of Quartet, Op. 22, is never going to be a crowd-pleaser. Being able to play music over and over again at will allows listeners lacking the exceptional score-reading skills and auditory imagination necessary to 'hear' music while reading scores (that is, most listeners), to become familiar with complex music. In Webern's case, multiple playbacks are practically a prerequisite for getting to know his short, intense works, which all but eschew exact repetition. This is

[586] Chanan (1995), 11.
[587] Craft (2009), 6.
[588] Craft (1997).

why the first Craft set had the impact it did, and points to the ways in which sound recording has been a force for the democratization of art music. Jonathan Kramer suggests that Schoenberg, Berg and Webern actually wrote complex music with little repetition in subconscious response to the opportunity for repeated listening offered by sound recording.[589] Mark Katz, however, criticizes this as far-fetched on the basis that all three composers recorded very little and Schoenberg himself claimed to see 'no advantage' in the mechanization of music.[590]

It is true that Webern lacked substantial recording experience, but he did do a lot of radio work (especially for the BBC) and was very sensitive to the capabilities of the radio medium. In the same 1929 letter to Edward Clark quoted in Chapter 1, he recommended the Five Pieces, Op. 10 instead of the Op. 21 Symphony for a BBC performance on the basis that it would broadcast better. Of the third piece of Op. 10, he wrote:

> [J]ust this piece with the bells will sound especially beautiful on radio. […] I am perfectly convinced that it is all radio music! Nothing can be more suitable for radio! […] All these sounds are extremely delicate but very intense. Light *ff*! Therefore, as if created for radio.[591]

The third piece of Op. 10 is explicitly textural, colouristic and amelodic and appears to have been modelled on 'Farben' from Schoenberg's Five Pieces for Orchestra, Op. 16. According to Michael Chanan, both Schoenberg and Kurt Weill commented on the capacity of radio to demand clarified sonorities, Weill scoring his *Berliner Requiem* of 1928 – commissioned by Frankfurt Radio – with stark textures accordingly. The same year, Schoenberg remarked that the radio and the gramophone 'are evolving such clear sonorities that one will be able to write much less heavily instrumented pieces for them'.[592] Webern's music is very lightly scored and the sonorities very clear and precise, although Ted Libbey argues that: 'It wasn't until the 1960s that recording technology existed that could do justice to this music i.e. that could amply convey […] the timbral and spatial subtleties of Webern.'[593] The timbral sophistication of Webern's music – particularly the early expressionist pieces – is, then, a third reason why it records particularly well. High-quality, high-fidelity digital recording with no surface

[589] Kramer (1986), 69. Quoted in Katz (2004), 29
[590] Schoenberg (1975), 328. Quoted in Katz (2004), 30.
[591] Webern (1929). Quoted in Doctor (1999), 171.
[592] Quoted in Gould (1987), 346. Both the Schoenberg and Weill anecdotes are reproduced in Chanan (1995), 116.
[593] Libbey (2006), 50.

noise allows one to attend closely to the sonic quality and 'special effects'. Indeed, with the exact repeatability of recordings, timbre comes to be an essential rather than a variable or peripheral part of the piece and 'external' sonic artefacts become normalized. Recordings also encourage 'acousmatic' listening, that is, listening cut off from the actual physical, instrumental circumstances of sound production and attending only to the sound per se.[594] As Chanan writes, 'Music has become literally disembodied'.[595] The world in which most of us hear music is now a virtual one, not the real space of a concert hall.

The fact that modern digital recordings allow silent passages to be truly silent and very quiet passages to be better audible than live performances, as we saw in 3.2.6., is a fourth, related, reason why Webern's music is communicated particularly well through recordings. We might recall the Internet reviewer above who claimed that he was 'born for CD'.[596] Indeed, the reproduction of these spectral, 'kaum hörbar' passages feeds into an understanding of his music in disembodied terms – 'disembodied' this time in a slightly different sense. In Chapter 2, we saw how Webern's music has often been linked to the otherworldly and, as will be explored in Chapter 4, there is a sense in which performances play upon the trope of the 'spectral', both in a musical sense (in the sense of timbral spectra) and an expressive sense (in the sense of ghostly). Modern recordings allow them to do this successfully – more successfully, I would argue, than live performances, in which the sound source is visibly present and demystifying. Listen to the end of the Philharmonia Orchestra's 2007 recording of the string orchestra version of Op. 5 no. 4, conducted by Craft [Audio 51]. While the absence of the visual dimension in sound recordings means something is lost, since gestural information cannot be communicated directly (and in Webern this can be a real loss, as we have seen), something is also gained by listening to his music acousmatically, as 'disembodied'. In Webern recordings we experience the ghostly shadow of the recorded trace with all the more immediacy.

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[594] See Clarke (2002b) on acousmatic listening. The term was first used by Pierre Schaeffer (Schaeffer, 1966).
[595] Chanan (1995), 18.
[596] 'Lexo-2' (2000), quoted in 3.2.6. above.

The preceding three chapters have investigated Webern recordings from a broad perspective, relating them to wide stylistic and aesthetic questions. In the three case studies that now follow, I will probe some of the more specific issues raised by performing and recording Webern's music. The first case study will address intonation in Webern string quartets, particularly in terms of its relationship to one of the central pillars of the Second Viennese School theory of performance – equal temperament.

Chapter 4

Intonation in recordings of Op. 5, no. 5

4.1. Introduction

The following study will investigate intonation in 21 commercially available recordings of bars 1-4 of the fifth of Webern's Five Movements for String Quartet, Op. 5, an early atonal work from 1909 [Example 20]. First, I shall report the results of an analysis of melodic and harmonic intonation in this passage, based on fundamental frequency data gathered from the recordings using a manual but non-aural method. In the final portion of the chapter, I supplement this empirical approach with an interpretative one, commenting on the expressive effects produced by intonation in particular recordings. The 1999 recording by the Vienna-based Artis Quartett is discussed in detail.

4.1.1. The myth of equal temperament?[597]

Rehearsing Schoenberg's *Friede auf Erden* for the ISCM Musikfest in June 1932, Webern suddenly stopped the choir:

> I tell you, a part of me dies when I hear a choir – even my own. I think our intonation was pure to some extent, at least as my ears heard it. One sings only in equal temperament. Anything else makes a right pig's ear of a noise.[598]

This was typical of the Schoenberg School view of intonation, which held equal temperament (ET) to be the only practical tuning option, especially for new and atonal music. Since all semitones were enharmonically equivalent in atonal and twelve-note serial music, the theory went, this had to be reflected in tuning, otherwise confusion would result. Adorno dismissed the 'natural' scale differences as 'archaic rudiments […] irreconcilable with the rational chromatic scale'[599] and wrote that 'new music turns into gibberish if one does not play enharmonic pitches identically'.[600] According to Adorno:

> Intonation has a *formally constitutive* function. If, in a piece by Webern, an F appears pizzicato in one instrument, then *arco sul ponticello* in another, the *unity*

[597] This phrase is taken from the title of Lloyd (1940).
[598] 'Ich sage Ihnen, daß ich zugrundgeh, wenn ich einen Chor hör – auch den meinen. Ich glaub, daß wir schon auch rein gesungen haben, wie zumindest meine Ohren es hören. Man singt nur nach der temperierten Stimmung, alles andere gibt an saufalschen Klang.' Quoted in Humpelstetter (1983), 66.
[599] Adorno (2006), 124.
[600] Ibid., 99. For a discussion of the significance of equal temperament in Adorno's philosophy of modernism, see Chua (1999) 12-22.

> within this difference can only be established if the intonation is absolutely identical.[601]

Kolisch was especially vocal in his support for ET. According to David Satz, even in rehearsals with string players, Kolisch would 'unhesitatingly' use the piano as a reference whenever questions of intonation arose.[602] An examination question he set in 1968 for the students of the New England Conservatory reads: 'What are the most drastic violations of equal temperament in current performance practice and why can't they be tolerated?'[603]

However, empirical studies of intonation – dating back to the 1930s experiments of Seashore and others[604] – suggest tuning among singers and performers on instruments of unfixed pitch is rather more complex than this and rarely approximates ET closely.[605] Greene's 1936 study of solo violin intonation found intervals were tuned closest to their Pythagorean, rather than equal-tempered or just values.[606] Nickerson's 1949 study found the same for string quartet players.[607] This might be thought to relate to the tuning of stringed instruments in fifths: Pythagorean intervals are derived from 'stacking' pure fifths (in the frequency ratio 3:2), which are slightly wider than ET (701.96 as opposed to 700 cents), making Pythagorean intervals generally wider than equal-tempered ones.[608] However, Salzberg later argued that intonation approximating Pythagorean tuning results from a general preference among players and listeners for intervals tuned sharp relative to ET – the so-called 'sharpness propensity' – rather than an attempt to conform to Pythagorean intervals per se.[609] The perception of intonation, that is, the evaluation of whether a pitch is subjectively 'in tune' or not, is affected by

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[601] Adorno (2006), 155. Emphasis original. Adorno refers in the footnotes to 'bars 3 (first violin) and 4 (cello) of the fifth of the Bagatelles for String Quartet, op. 8 [*sic*] by Webern'.
[602] Satz (2002), 197-98. On Kolisch and ET, see also Kovács (2002).
[603] Ibid., 204.
[604] Seashore, Carl E. (1936).
[605] General summaries of empirical studies of intonation in performance can be found in Gabrielsson (1999), 545-47 and Morrison and Fyk (2002). For an explanation of theoretical temperaments and tunings, see Campbell and Greated (1987), 76-79.
[606] Greene (1936).
[607] Nickerson (1949).
[608] Although stringed instruments are supposed to be tuned to pure fifths, they are often tuned wider for expressive reasons: Satz comments on the 'near-universal practice' of string players 'stretching' the interval between open strings when tuning their instruments in order to 'project a larger tone' in large concert halls. Satz (2002), 204 n. 18. Conversely, Neil Heyde of the Kreutzer Quartet comments that he sometimes tunes his strings in equal-tempered fifths for particular pieces. Personal interview, 2007.
[609] Salzberg (1980). On the sharpness propensity, see also Mason (1960); Geringer (1978) and Sogin (1989).

myriad psychoacoustic factors,[610] which affect performance too. Studies suggest numerous factors like melodic direction, interval size and type, the need to create good vertical blending in chords and the presence or absence of accompaniment may all potentially influence string intonation.[611] For example, research has revealed intonation tendencies among string players to compress small melodic intervals and stretch large ones,[612] which may relate to the 'stretched octave' phenomenon – a listener preference for octaves around 10 cents wider than a 2:1 ratio.[613] String players also typically raise the leading note when moving towards the tonic.[614] This has been described in terms of melodic 'gravitation' towards more harmonically stable pitches.[615]

This is in line with string performance practice literature, which also suggests tuning is flexible, rather than bound by temperaments, and affected by melodic and harmonic context.[616] Pedagogy and tradition play a role: string players are often taught to habitually widen certain intervals, such as melodic major thirds, or to tune enharmonic notes differently – an F#, for example, may be tuned higher than a Gb. Josef Szigeti called this 'functional intonation',[617] since it relates to the harmonic function of the notes. Pablo Casals used the term 'expressive intonation' to refer to the same practice.[618] For Casals, leading notes and major thirds were to be sharpened and minor sevenths and perfect fourths flattened, adjusting them in the direction of their normal resolution. The results, though, may be a compromise between a whole host of competing factors, since melodic and harmonic 'forces' often directly conflict [Figure 7]. Players may have to subtly shift the intonation of individual notes in order to modulate through keys, making string intonation a complex labyrinth of constant microadjustment. As David Waterman, cellist of the Endellion Quartet, writes:

[610] Burns (1999) provides a good general summary of studies of intonation and pitch perception.
[611] See Shackford (1961, 1962a, 1962b); Sogin (1989); Garman (1992); Fyk (1995); Brown (1996).
[612] Rakowksi (1990).
[613] See Terhardt (2000).
[614] Fyk (1982b); Kantorski (1986); Sogin (1989).
[615] Small (1936); Brown (1996); Devaney (2008).
[616] For a historical summary of treatises on violin tuning, see Barbieri (1991).
[617] Discussed in Barbieri (1991).
[618] See Corredor (1956), 196-98 and Littlehales (1948), 132-40. I am grateful to George Kennaway for these references.

> [S]tring intonation is more expressive and sensitive than equal-tempered piano intonation. This expressive advantage enjoyed by strings comes at a price: different degrees of stretching or bending of notes are possible.[619]

Intonation appears to be perceived qualitatively, holistically, intuitively and often unconsciously: tuning judgements are often dependent on timbre and loudness, particularly when pitch differences are very small.[620] Semal and Demany showed that listeners often cannot tell whether pitches very close in frequency are sharp or flat relative to another, but can perceive the difference qualitatively.[621] Makeig noted in 1982 that small intonation changes are often heard as vowel shifts,[622] and wrote: 'When we hear a singer sing a note 'flat', we mainly experience a note that feels 'sour', rather than experiencing (or before experiencing) the same note as being 'too low''.[623] Qualitative intonation judgements may also relate to perceived motional or emotional aspects of the music such as tension and relaxation.[624] In their study of barbershop quartet intonation, Hagerman and Sundberg observe that 'stretched intervals appear to sound more active and expressive than flat [compressed] intervals'.[625] Interesting cross-modal associations also appear to exist between intonation and visual brightness: Wapnick and Freeman demonstrated that listeners subjectively associate brightness with sharpness and flatness with darkness.[626] A similar cross-modal association may exist between intonation and timbral brightness, that is, the amount of energy in the higher harmonics.[627]

Performers certainly appear to conceive of intonation in this holistic sense. David Waterman comments on:

> [T]he supremely important fact that whether intonation sounds convincing or not depends not only upon where exactly the finger of the left hand is placed but also on many contextual factors such as tone-colour, vibrato, balance, blend, tempo and acoustic.[628]

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[619] Waterman (2003), 110. These small, almost inaudible intonation adjustments are often masked by vibrato.
[620] Platt and Racine (1985), Sethares (2005).
[621] Semal and Demany (2006).
[622] Makeig (1982), 230.
[623] Ibid., 231.
[624] Boomsliter and Creel (1963).
[625] Hagerman and Sundberg (1980), 16.
[626] Wapnick and Freeman (1980).
[627] See Fyk (1995), 79-80.
[628] Waterman (2003), 111.

Boulez remarks on the close link between intonation and overall sonority:

> If you have a more complicated chord, a chromatic chord, like in twelve-tone music [… and] you have an orchestra very well tuned, then the sound of the chord is *quite* different because the sonority is much nicer to listen to […] it gives the impression of *truth*.[629]

Talking of rehearsing Webern with the BBC Symphony Orchestra, he recalls progressively building up difficult chords with the orchestra, who became aware, 'without me saying anything […] of how the chord [was to] be progressively adjusted to the tuning'.

According to Neil Heyde, cellist of the Kreutzer Quartet:

> If you looked at what we [the Kreutzers] talked about [in rehearsals] you would find that very little of it would be specifically towards intonation. Intonation, in as far as it gets discussed by us, is almost always discussed in terms of *colour*. It's through colour we do our tuning and it's exactly the same whether it's Webern or Mozart. […] So we often find ourselves calling over and saying, you know, "could we have that G sharp a bit *darker*". We'd never say "lower in intonation"; we're not thinking of it like that.

When playing in a string quartet, he says:

> [E]verything is microadjusted. Unconsciously. […] [Y]ou change the colour, and you change the colour of the pedal actually by shifting intonation very, very slightly. Probably it's less intonation shift than colour shift. Bow position, probably more than anything. Maybe it's not intonation at all. […] I can't unpick in my head whether it's tuning or colour that I'm moving. Because the two things happen… they are so inextricably bound up. […] Maybe I couldn't have changed that pitch, it must have been something else, it must have been colour. It could be range of vibrato, couldn't it? It could be all those things.[630]

It seems, then, that intonation is potentially affected by many different factors, and, for both performer and listener, inseparable from other aspects of music like timbre and loudness. In summary, we might agree with Steven Morrison and Janina Fyk's statement that 'truth is subjective when it comes to pitch […]. In a real musical context,' they write, 'intonation appears to be more negotiation than conformity'.[631]

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[629] Boulez (2005). Spoken emphasis reproduced in italics.
[630] Personal interview, 2007.
[631] Morrison and Fyk (2002), 194.

This lack of conformity makes intonation difficult to study. Research has tended to focus on short, monophonic extracts, since gathering intonation data manually is laborious and, until recently, there was no way of measuring the intonation of separate parts in a polyphonic musical passage. Recent developments in software,[632] however, have allowed researchers to begin studying polyphonic music as well.[633] Many studies use specially composed musical extracts, which allows particular variables to be tested but lacks the ecological validity of 'real' performances of 'real' music. This is particularly important when investigating intonation in terms of expression: a player is unlikely to produce a truly expressive performance of a dull test piece. This study uses commercial recordings, partly because they are (in some senses at least) 'real' performances, and also because, since these recordings are by professional musicians, unintentional tuning errors may be assumed to be at a minimum. As far as I am aware, this study is the first to examine intonation in atonal, polyphonic music, as well as the first study of tuning in recordings of Second Viennese School repertoire.

4.1.2. The musical passage

The passage discussed is the first four bars of the fifth of Webern's Five Movements for String Quartet, Op. 5 [Example 20], which last around 30 seconds in performance. The movement is marked 'In zarter Bewegung' (gently moving), and these first four bars form the beginning of a nine-bar opening section. A melody on solo cello opens the passage (bars 1-2), then drops down to a low ostinato (bars 3-4), accompanied by four dissonant six-part double-stopped chords in a high register in the upper three parts. The dynamics are very soft (*ppp* rising to a maximum of *pp*) and all parts are played with mute [mit Dämpfer]. The passage is very difficult to tune, both because of its harmonic complexity and tricky double stopping and because all three upper parts must enter simultaneously, with only the dissonant cello as a tuning guide. Some initial tuning adjustment is, therefore, to be expected from the players.

There are a number of features of this passage that make it a good test passage for studying intonation. Firstly, it is in a very slow tempo (quaver = ca 60, dropping to

[632] For example, Direct Note Access from Melodyne promises to allow the direct editing of individual notes in a polyphonic audio extract, although this software had not been released at the time of writing. See http://www.celemony.com/cms/index.php?id=dna [Accessed 27th March 2009].
[633] See Devaney and Ellis (2008).

quaver = ca 48), meaning players have plenty of time to rectify intonational mistakes,[634] so the measured frequency of each note is likely to be close to that intended by the player.[635] Secondly, it is atonal. The lack of consonant, simple-ratio intervals means there are few coinciding partials; this makes it possible to easily isolate most partials on a spectrogram with little interference, which is important, given the analytical method described in 4.2. below.[636] Thirdly, the passage tends to be performed with little vibrato. While most cellists in recordings use at least some vibrato, the upper-part chords are usually played entirely without vibrato, minimising its potential influence as a factor and making intonation issues very baldly apparent.[637] While the notes in the upper chords cannot necessarily be heard separately, their intonation does make a very great difference to the sonority of the chords, in the sense described by Boulez above. In fact, the main reason I chose this passage is that the differences in intonation and sonority between recordings have such an important influence on the overall musical impression they create. Compare the 1991 recording of the Quatuor Parisii [Audio 52] – with its clear and congenial cello line and clean, bell-like chords – with the far more murky, gritty sound of the Schoenberg Quartet's 2000 recording [Audio 53].[638] There are many differences between these recordings – in timbre, dynamics and balancing as well as tuning – but the more heavily 'inflected' sound of the Schoenberg Quartet's intonation, particularly in the cello, is no small part of the mix.[639]

[634] According to Vos (1982), the discrimination threshold of slightly mistuned intervals decreases with increasing stimulus duration, meaning that longer notes are also easier to detect as 'out of tune'.
[635] Although see the discussion of intentionality in 4.7. below.
[636] Indeed, this is a good reason for using atonal rather than tonal extracts when studying intonation in polyphonic music, since tonal music has lots of harmonies based on major and minor triads, which contain lots of overlapping partials.
[637] The lack of vibrato is not marked in the score, so likely reflects a shared conception of the expressive character of the passage, possibly a result of performance tradition. It is interesting that the only recording in which the upper parts are played with the standard wide vibrato is the Kroft Quartet's 1983 recording [Audio 54]. The Kroft Quartet were an ensemble from Czechoslovakia, which was politically isolated from non-communist Europe in the early 1980s. The Kroft Quartet's exposure to the Webern quartet tradition and to recordings was probably very limited, therefore.
[638] These audio example encompass bars 1-9, though the intonation analysis shall investigate only bars 1-4.
[639] It sounds as though the Schoenberg Quartet's cellist is playing on gut strings, which increases the range of timbral and tuning inflections open to the player.

4.1.3. Questions and hypotheses

A number of questions may be asked about intonation in this passage and hypotheses proposed. These may be divided into seven categories, listed below. I shall address the questions and hypotheses in the first six categories through the empirical analyses of intonation in all 21 recordings described in 4.2. through to 4.4., considering the final issue of expression in the more detailed discussion of particular recordings in 4.5. and 4.6. In these final sections, I shall also look not just at the mean intonation of each note but also at microintonation – small tuning fluctuations within individual notes.

1. Equal temperament

Firstly, we might investigate the extent to which players' intonation approximates ET in this passage. If closely, this may suggest ET serves as a tuning norm. Are performances of this atonal passage closer to ET than performances of tonal music? If the theoretical notion of total enharmonic equivalence is, in fact, reflected in performances of atonal music (as Kolisch and Adorno said it should be) then one would expect them to approximate ET more closely than in studies of intonation in tonal music.

There are some suggestions that intonation in atonal music may be subject to different forces than in tonal music. Fyk showed in 1982 that when subjects listened to short melodic atonal stimuli, tonal stability no longer influenced the perception of intervals as 'in tune'.[640] Instead, listeners tended to rate as 'in tune' intervals that were exaggerated in the direction of their melodic movement, suggesting that, in the absence of a hierarchical harmonic background, melodic contour may play a larger role in influencing intonation. Umemoto showed listeners were worse at detecting a quarter-tone mistuning in an atonal melody than a tonal melody, implying that a lack of tonal context might result in the absence of standards against which intonation can be judged as correct or not, and so lead to a situation of potentially greater performance freedom.[641] This could result in performances further from ET. Alternatively, this very lack of standards might again mean reversion to ET intervals, given the absence of other forces, such as the harmonic pull of just intonation (JI). Dissonant music may not be as easy to tune using acoustic consonance as a guide as consonant music. As Shackford

[640] Fyk (1982a).
[641] Umemoto (1990).

writes, '[I]n a consonant style there is more opportunity for the purely physical properties of musical intervals to assert themselves […] these properties tend to standardize interval sizes'.[642] That is, players can use acoustic beats to tune very consonant intervals like octaves and fifths, but fewer of these exist in atonal and serial music. The extent to which quartet tuning approximates JI may, then, also be queried. Are just intervals used to create good vertical blends in the chords in the upper parts? Finally, we might ask whether any historical trends emerge from the data: has intonation become closer to ET over time, in keeping with the trend discussed in Chapter 3 towards neater, more accurate performance in the later twentieth century?

2. Interval consistency

We might ask which individual intervals in the extract are tuned the most consistently across quartets – the most regularly or rigidly – and which with the greatest range of different tunings, that is, the most freely or flexibly? Consistent intonation of particular intervals may imply that constraining factors – such as melodic gravitation or the use of particular fingerings – are at work, whereas inconsistent intonation suggests a lack of them. Alternatively, it could imply that different constraining factors are 'competing' (as in Figure 7, for example), with some 'winning' in some performances, while others prevail in others.

3. Interval type

The six-part chords in bars 3-4 have a highly complex intervallic content: they contain every possible vertical interval within a 12-note set, although many intervals appear in compound form. This variety of interval types allows one to test whether quartets tune different types of interval (minor seconds, major sixths, and so on) differently. For example, we might expect more consonant intervals to be performed more consistently. Fyk's 1982 study found perceptual 'tolerance zones' were narrowest for consonant intervals (unisons, octaves and perfect fourths) and widest for dissonant intervals (minor seconds and major sevenths), suggesting the range of acceptable tunings for the most consonant intervals may be relatively small.[643] In this passage, the five perfect fifths between the first and second violins stand out of the texture. One might expect these

[642] Shackford (1962b), 302.
[643] Fyk (1982a), 38. Fyk tested only a limited set of intervals types, however, which did not include perfect fifths.

fifths to be tuned particularly consistently, both because of their acoustic consonance (when pure) and because they are normally played stopped with one finger across two strings, considerably constraining the range of possible tunings. The perfect fifth interval A-E in the second violin in bar 4 can be (and often is) played on open strings, which lends the third chord a particular emphasis and more 'open' timbral quality. One would expect this particular fifth to have the narrowest range of tunings, since players can only minimally affect the pitch of unstopped strings (by pressing harder with the bow).

4. Enharmonic intervals

The passage also contains three pairs of enharmonic intervals between the two upper-part chords in bar 3, which are direct transpositions of each other (the second chord is four semitones, or a major third, lower than the first). These enharmonic pairs are:

Pair 1 Major third, G to Eb and diminished fourth Eb to B, first and second violin.
Pair 2 Diminished fifth Bb to E and augmented fourth F# to C, viola (double stopped).
Pair 3 Diminished octave Eb to E and major seventh B to C, second violin and viola.

Is the theoretical enharmonic equivalence of ET reflected in quartet intonation or do players distinguish between, for example, augmented fourths and diminished fifths? Shackford found that the average performed size of a harmonic tritone was 611 cents if spelled as an augmented fourth (e.g. C-F#), but 593 cents if spelled as a diminished fifth (C-G*b*).[644] If ET is a norm, one would expect no significant difference between the mean performed sizes of these intervals. If, however, note spelling does affect tuning, then one would expect their means to differ.

5. Solo and accompanied cello

The four-bar cello line plays both alone and accompanied by the other parts, allowing one to examine both horizontal (melodic) and vertical (harmonic) aspects of quartet intonation and to test the possible effect of accompaniment on tuning. Garman's 1992 study found significantly greater pitch deviations from ET in unaccompanied than in

[644] Shackford (1962b). Similar results were also found by Rakowski (1990).

accompanied passages among string players.[645] Since in the solo passage, the cello is not constrained by the need to adjust to the other instruments, one might expect less tuning consistency between the intonation of intervals in bars 1-2 than in bars 3-4 – and perhaps also performance further from ET.

6. Octave stretch

The passage has a wide tessitura: the cello part is very low on the C string and the upper parts play in high registers. The presence of wide intervals between upper and lower parts allows one to test for a possible octave stretching effect. Studies suggest that listener preference for stretched octaves affects performance: Fyk's 1997 study showed stretched octaves in violin intonation[646] and Kantorski's 1986 study found string players played sharper relative to ET in upper than in lower registers.[647] Loosen's 1993 study of solo violin scales[648] found stretched octaves between all scale degrees except the tonics, which were in a pure 2:1 ratio, suggesting aspects of musical structure may override more general psychoacoustic tendencies. One might expect high notes to be tuned sharper than low notes in this passage, relative to ET, since string players tend to tune their open strings wider than ET fifths, as noted above. If the cello is playing on the bottom string and the violins and viola on upper strings, this could be reflected in the tuning (although naturally, players can compensate for their open-stringed tuning quite easily if they want to). If an octave stretch effect exists, one would expect large intervals to be tuned wider than small intervals, relative to ET.

7. Expression

Finally, how do the different tuning strategies used affect the aural result of the recordings and are there instances where intonation can be seen as performing an expressive function by relating to musical aspects of the passage such as phrase structure, contour or mood? Studies of intonation and expression are relatively few, but their results are interesting. For example, Peter Johnson's 2004 study of string quartet intonation in Beethoven's Op. 135 discusses the expressive implications of prioritising

[645] Garman (1992).
[646] Fyk (1997).
[647] Kantorski (1986). Friberg (1991) found the same for flautists.
[648] Loosen (1993).

either melodic movement or harmonic blending in intonation.[649] There may also be an association between intonation and mood: in a 2005 study of singers' intonation in recordings of Schubert's *Die schöne Müllerin*, I found that singers used intonation expressively at moments of high emotion, singing sharp relative to the piano accompaniment to express either joyful exuberance or anger.[650] Flat intonation was rare and reserved for moments where the text mentioned death. Are there passages where players use microintonation expressively? In the Schubert recordings, extreme microintonational inflections within notes appeared to be associated with emotional turbulence. Can the expressive use of intonation be related to other aspects of the recordings, such as timbre?

4.2. Method

21 different commercial studio recordings by 18 different quartets from eight different countries were used in the study, recorded within a 50-year span from 1950 to 2000. The recordings are outlined in Table 2,[651] which shows that the Juilliard Quartet were represented three times and the Artis Quartett twice.[652] The sample was somewhat dominated by US-based quartets and recordings made in the 1990s. This is a fair reflection of the existing recordings of this work, so no attempt was made to standardise the sample in terms of date or nationality.

Intonation data was gathered by means of an original, largely manual, non-aural analytical method using the program SPEAR (Sinusoidal Partial Editing Analysis and Resynthesis), version 0.7.1.[653] SPEAR produces analyses of audio files by resolving them into a number of sinusoids, much like conventional spectrographic software but with the advantage that one can then edit the analyses or isolate single partials or groups of partials. This provided a good – although time-consuming – solution to the problem of separating polyphonic parts. A SPEAR analysis of each passage was created with the 'minimum amplitude threshold' setting at -90dB and the 'amplitude threshold under

[649] Johnson (2004).
[650] Quick (2005).
[651] Catalogue numbers and other recording details are available in the Discography.
[652] The cellist in the 1952 Juilliard Quartet recording, Arthur Winograd, was replaced in 1955 by Claus Adam. The other members remained the same for the two subsequent recordings. The membership of the Artis Quartett remained identical across both recordings.
[653] Freely downloadable from http://www.klingbeil.com/spear/.

peak' setting at -60dB and the 'perform time reassignment transient sharpening' option turned on. The partial representing the fundamental frequency (*f*) of each note was then isolated. Different window size/frequency resolution settings were used, depending on the amount of vibrato and spacing of the partials, but the default frequency resolution was 60Hz for the cello part and 20Hz for the upper parts in bars 3-4. A smaller window size was used in the upper parts because their partials tended to be closer together and to be performed non-vibrato (meaning detailed time resolution was less important since the frequency varied less).[654] Where the fundamental was very weak or remained unclear despite frequency resolution adjustment, the second (or very rarely third) harmonic was measured instead and *f* calculated by dividing by two (or three). In these cases, perfect harmonicity of the string was assumed, in line with research showing the frequencies of the partials in the central part of string tones are very close to integral multiples of *f*.[655]

SPEAR's measurement error is very low under perfect conditions: the program's creator, Michael Klingbeil, cites a lower error level of 0.1%, or 1.73 cents for most of the frequency range, slightly higher at lower frequencies.[656] Perfect conditions, admittedly, do not exist in these recorded examples due to interference from other partials and the presence of background or surface noise, so the true measurement error is likely to be higher than 0.1%. However, the impact of interference from other partials was minimised as far as possible by choosing a very high frequency resolution (20Hz or even 10Hz) in parts of the spectrum where the partials were close together and by manually editing out segments of the pitches obviously affected by interference, as outlined above. In the few cases where the fundamental conflicted so directly with a strong partial of another note as to make the isolation of a single partial impossible (for example the viola A*b* sometimes clashed with the G#, the sixth harmonic of the cello's C#, in bar 4), the frequency reading was taken from the first harmonic instead.[657]

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[654] The frequency resolution used, 20-60Hz (very occasionally 10Hz), translates into a window size of between 2941 (60Hz) and 8821 (20Hz). Since with spectrograms there is a trade-off between frequency resolution and time resolution, larger window sizes result in a poorer time resolution but better frequency resolution than smaller window sizes. For example, in SPEAR a resolution of 20Hz gave 40 frequency readings per second while a resolution of 60 Hz gave 120 readings per second.

[655] Fletcher et al (1965); Plomp (1976); Rasch and Plomp (1982).

[656] Personal correspondence, 2008.

[657] Not much could be done about vinyl surface noise, however (experiments with noise reduction were not successful). In the LP transfers, it is also possible that small warps in the vinyl may have caused pitch changes, although all the records used were in very good condition and not visibly or audibly warped.

Once selected, the partial was isolated by copying and pasting it to a new window, and the beginnings and ends edited to leave only the most stable, central portion of each note. This eliminated the pitch instability of the attack as well as rapid initial tuning adjustments by the performer.[658] The end of the note was also edited out where it was unstable, for example in places where the performer audibly changed their hand position in preparation for a shift. Portions of the sinusoid representing reverberation after the player's bow had left the string were also deleted, as were portions obviously affected by interference from another partial. Thus the remaining part of the sinusoid represented the central, most stable and, as reasonably as could be assumed, the 'intended' pitch of the note.

From this, a .txt file was created with between 50 and 300 data points representing separate frequency measurements,[659] imported into a spreadsheet program and the mean found. This gave an average frequency value in Hz for *f* for each of the 33 notes in the passage (the final C in the cello was disregarded) across 21 performances. There were two cases in which frequency was unreadable, giving ((33 x 21) – 2) = 691 frequency readings in total. Interval sizes in cents were then calculated using the formula:

$$1200(\log2(f1/f2))$$

where $f1$ is the higher and $f2$ the lower fundamental frequency. This gave a positive number in cents for each interval.

A 10-cent threshold for significance was observed, which falls safely within the pitch discrimination abilities of most listeners.[660] However, 10 cents is larger than the difference between the equal-tempered and Pythagorean versions of all intervals except the tritone, and between the ET and just versions of all intervals except major and minor

[658] These normally took place within the first 0.3 seconds of the note and were clearly visible in SPEAR. These initial adjustments should be distinguished from the gradual, expressive changes in intonation discussed in 4.5. and 4.6. below.
[659] The number of separate data points was normally between 100 and 200, depending on the length of the note and the frequency/time resolution.
[660] This varies greatly between musician and non-musician listeners, but some people may be able to distinguish between pitches much closer than this under some circumstances. Parncutt and Cohen (1995) suggest a smallest limit of 0.1-0.2% (2-3 cents) for successive pure tones between 100 and 5000Hz and even less for complex tones (p. 836).

thirds and sixths, which differ by around 13 cents.[661] The extent to which players approximated Pythagorean intonation was not investigated, therefore, and the discussion of JI was confined to thirds and sixths only.[662]

The data were subject to two different analyses: a melodic analysis and a harmonic analysis. In the melodic analysis, the successive interval sizes of the pitches in the cello part in bars 1-4 were calculated. Since there are 13 notes in the cello part (excluding the final C), this gave 12 intervals, multiplied by 21 performances, minus two missing cases = 250 melodic interval readings in total. Their average and average absolute deviations[663] from equal-tempered intervals were then found for a) different intervals in the passage, averaged across all 21 performances and b) for different performances, averaged across all intervals. A linear regression between the average absolute deviation from ET for each recording was performed against the year of recording, to see whether modern cellists are closer to ET than 1950s cellists. For minor thirds and sixths (there are no major thirds or sixths in the cello line) the average and average absolute deviations from JI were also calculated. The standard deviations (SD) per interval were then found to measure the degree of consistency or inconsistency in the intonation of particular intervals across recordings. The mean SD of interval sizes in the solo cello passage (bars 1-2) was also compared with the SD in bars 3-4, where the cello is accompanied by the upper parts.

In the harmonic analysis, bars 3-4 were conceived as two sets of four six-note chords, each with the same upper three parts [Figure 8]. All possible simultaneous intervals between all pitches were calculated in cents, including those played double-stopped on a single instrument. There were 75 different harmonic intervals in total: 60 (15 intervals x 4 chords) with bass C# and 45 (15 intervals x 3 chords) with bass E, of which 30 were duplicated (i.e. the intervals between the upper parts) and 15 were different (i.e. the intervals between the cello and the upper parts). Multiplied by 21

[661] A just major third, in the frequency ratio 3:2, is 386.31 cents (400 for ET) and a minor third, in the frequency ratio 6:5, 315.64 cents (300 for ET). For major and minor sixths the numbers are 884.36 (5:3) and 813.69 (8:5) against 900 and 800.

[662] The proposal made by Greene (1936) and Nickerson (1949) that stringed instrument intonation may approximate Pythagorean tuning best could therefore not be tested, unfortunately. A lower threshold for significance would have allowed this, but given the unknown measurement error, this more conservative figure of 10 cents was used. This figure is also used by Ornoy (2007).

[663] Average deviations were found by finding the mean of all deviations, whether positive or negative. Average absolute deviations describe the mean of all deviations, expressed as positive numbers.

recordings (minus 12 missing intervals resulting from unreadable frequencies) this gave 1,563 harmonic interval readings in total.

As in the melodic analysis, the means and SDs of all intervals were found for all 75 separate intervals, averaged across all 21 recordings, and their average and average absolute deviations from ET intervals calculated. A Welch's two-sample *t*-test was conducted to test whether the means were significantly different from the equal-tempered version of that interval type. The average deviation from ET was then found for all separate recordings, averaged across all intervals. Again, a linear regression between the average absolute deviation from ET per recording and the year of recording was performed. For major and minor thirds and sixths, the average and average absolute deviations from JI were calculated, to see whether quartets use small-ratio intervals for the purposes of vertical harmonic blending.

Some extra analyses were performed on the harmonic interval data that could not be performed on the melodic data because of the limited number of pitches in the cello line. Mean sizes and SDs were calculated for each harmonic interval type (e.g. major third, diminished fifth). Here, simple and compound intervals were treated as equivalent. For example, a minor ninth (1300 cents in ET) was treated as a semitone (100 cents in ET). Next, a linear regression was performed between the average deviation from ET per interval (a positive or negative number in cents) and interval width (expressed as a whole number of semitones) to test for an octave stretching effect. If pitch space were stretched, one would expect a significant positive relationship between interval width and average deviation from ET. In this analysis, the data were treated as separate sets [Figure 8]:

Set 1 C# set: 60 intervals with the cello C# as the bass note
Set 2 E set: 45 intervals with the cello E as the bass note
Set 3 Upper parts only: 30 intervals between first and second violins and cello only

This was to see whether any stretching effect existed only between the cello and upper parts, or also between the notes in the upper parts, and between the intervals in the chords on both cello notes, or just one or the other. When listening to this piece, it often sounded as though cellists were playing the C# rather flat, but not the E, which would produce stretched intervals between the C# and other parts. Thus, analysing the

intervals with different bass notes separately allowed one to see whether any apparent stretching was a particular contextual effect resulting from flat C#s or not. If not, this could indicate octave stretching might be a factor affecting tuning, as suggested in 4.1.3.

Finally, to test whether quartet players distinguish consistently between enharmonic intervals using intonation, the mean sizes of the three pairs of enharmonic intervals were compared across all recordings, using a Welch's two-sample *t*-test.

4.3. Results

4.3.1. Results of melodic analysis

Table 3 shows the average melodic interval sizes in cents between successive cello notes in bars 1-4 for all 21 recordings. The 'mean size' column shows that the means of all intervals were within 6 cents of their theoretical ET values (these are in exact hundreds of cents), with an average absolute deviation from ET per interval of 9.56 cents. Intervals 5-9 – the descending minor sixth C-E and the minor thirds in the cello ostinato in bars 3-4 – differ from ET by more than 10 cents, though only just. These minor thirds tend to be slightly wider than ET, two significantly wider (intervals 7 and 11), with a further two approaching significance. All other mean performed interval sizes were insignificantly different from ET. Table 4 shows that the minor thirds and sixths in the passage were tuned considerably closer to ET than to JI.

As Table 3 shows, the interval with the highest SD (15.22 cents) was interval 5, the descending minor sixth C-E in bar 2, the lowest (8.68 cents) interval 3, the falling major seventh from G to G# in bars 1-2. The mean SD was 11.85 cents. This figure is lower than that typically encountered in studies of melodic intonation in tonal music. For example, Brown's 1996 study found an SD of 23.11 cents for successive melodic intervals in a passage from a solo Bach violin Partita.[664] When compared to the average of all the tonics in the passage, these figures dropped to 16.15 cents – still higher than the mean SD here. The mean SD and average absolute deviation from ET of the intervals in the solo passage in bars 1-2 (11.14 and 8.94 cents) was slightly lower than

[664] Brown (1996), 90.

in the accompanied passage in bars 3-4 (12.35 and 9.94 cents), contrary to what was expected.

The average deviations from ET intervals by recording are listed in Table 5. Two thirds of cellists (14 out of 21) stayed within 10 cents of ET on average. The intonation of the Leopolder Quartett's cellist was closest to ET and that of the Artis Quartett's cellist (in their 1999 recording) was furthest, with intervals on average 20 cents wider than ET, over 22 cents in terms of absolute average deviation. The linear regression between average absolute deviation from ET intervals and year of recording showed no significant relationship (R^2 = .05, p = .80, 19 *df*).

4.3.2. Results of harmonic analysis

Mean harmonic interval sizes in cents are shown in Table 6. As in the melodic analysis, they tended to be within 6 cents of ET, with an average absolute deviation from ET per interval of 11.63 cents. The means of only six intervals differed significantly from ET, with a further one approaching significance. All these were stretched relative to ET, except the major third between the second violin Eb and the first violin G (interval 6), which, at 394.89 cents, was over 5 cents narrower than ET (400 cents). The mean SD per interval was 14.46 cents. The highest SD (22.19 cents) for any individual interval was between the viola Eb and cello C# in bar 4 (interval 45) – a compound diminished third interval. The lowest was 6.39 cents, for the second violin perfect fifth (A-E) in bar 4 (interval 37).

Table 7 shows the extent to which different recordings approximated ET. Six out of 21 quartets stayed within 10 cents of ET on average and the rest deviated by between 10 and 20 cents. The intervals in the 1950 Pro Arte Quartet recording – the earliest in the sample – were both the narrowest and the furthest from ET on average. As in the melodic analysis, no significant relationship between year of performance and mean absolute deviation from ET per performance was found (R^2 = .007, p = 0.37, 19 *df*) and the minor thirds and major and minor sixths in the passage were tuned considerably closer to ET than JI [Table 8]. However, with the major third, the absolute deviations from ET and JI were quite similar (10.05 cents ET, 12.08 cents JI), suggesting quartets' tuning of harmonic major thirds approximated JI only slightly less well than ET.

Table 9 displays the mean size and SD for each harmonic interval type, arranged from low to high SD. Perfect fifths were performed with the lowest SD, followed by major thirds and diminished fourths. Table 9 shows that, again, the mean size of most interval types was within 5-6 cents of ET. However, the mean values for minor sevenths, diminished fifths, diminished thirds and semitones were all significantly larger than ET, with diminished octaves and diminished sevenths approaching significance. Major thirds were, on average, tuned narrower than ET, although this result did not quite approach significance.

The linear regression between the average deviation from ET per interval and the interval width (in semitones) seemed to reveal a slight octave stretching effect when all intervals were analysed (R^2 = 0.006, p <.005*, 1561 *df*). When the sets were analysed separately, the apparent stretching effect persisted in set 1 (R^2 =.018, p <.001***, 1248 *df*) but not in sets 2 (R^2 = -.0009, p = .74, 933 df) or 3 (R^2 = -.0008, p =.56, 830 *df*). In the enharmonic interval test, in interval pair 1, the major third (mean 394.89 cents) was tuned narrower than the diminished fourth (401.18 cents). The difference between the means was just significant (t = -2.09, *df* = 39.39, p= .04*). In interval pair 2, the diminished fifth (605.39 cents) was tuned slightly wider on average than the augmented fourth (601.04 cents), but the difference was not significant (t = 1.33, *df* = 36.39, p = .19). In the third pair, the diminished octave (1106.88 cents) was tuned as a slightly larger interval than the major seventh (1101.56 cents). However, these means were not significantly different either (t = 1.30, *df* = 38.61, p = .20).

4.4. Discussion

In both the melodic and harmonic analyses, mean interval sizes tended to be within 5-6 cents of their theoretical equal-tempered values, which could be taken as evidence that ET is, in fact, used as a norm in this passage. Of course, it should be borne in mind that the figures used were averages and individual interval sizes often differed quite widely from ET. While mean interval sizes tended to average out to very close to ET, when these differences from ET were expressed absolutely (as positive numbers), the differences for some intervals and performances could exceed the 10-cent limit. This could indicate that rather than ET being a norm for performers, intonation was instead rather idiosyncratic, with relatively few commonalities in the size of intervals between

recordings. Indeed, the equal-tempered version of any interval lies in the middle of the range of acceptable tunings (almost by definition) and often lies between just and Pythagorean values, for instance, so the fact that the average interval size was close to ET could simply indicate the individual interval sizes were distributed evenly about the mean and that positive and negative deviations averaged out. If there are few tuning trends, this might relate to the proposed stylistic individuality and idiosyncrasy of string quartets who rehearse together regularly, as discussed in Chapter 3. On the other hand, the mean SD for melodic intervals was lower than for Brown's study of intonation in Bach, suggesting that performances of atonal music may indeed be tuned closer to ET than performances of tonal music. However, Brown employed a different analytical method to this study and used a much faster musical passage very different in expressive character, so this comparison can only be an approximate one. These data cannot conclusively answer the question of whether ET serves as a tuning norm in performances of this passage, therefore, but they suggest it could be, although it certainly does not appear to be a rigorously binding one.

Regarding the two recordings contrasted in 4.1.2., the data indicated that the Quatuour Parisii's recording was actually much closer to ET than the Schoenberg Quartet's, particularly in the cello. That is, the clear sound of the Parisiis [Audio 52] seems to have been enhanced by more equal-tempered tuning, and the murky, inflected sound of the Schoenbergs [Audio 53] by less equal-tempered tuning. No relationship could be observed between the year of performance and the average absolute deviation from ET, so these data provided no evidence for the hypothesis that intonation is getting closer to ET over time. However, it is still noteworthy that the Pro Arte Quartet's recording was furthest from ET in the harmonic analysis, given Kolisch's absolute insistence on equal-tempered intonation. This could indicate the kind of gap between theory and practice that characterises so many pronouncements on performance by members of the Schoenberg School. Indeed, Lowell Creitz, latter-day cellist of the Pro Arte Quartet, said that not all members consistently used ET: 'Kolisch professed tempered intonation whereas our second violinist (who was a student of Ysaÿe) practiced just temperament.'[665] According to Creitz, the Pro Arte focused heavily on intonation and 'spent many hours' working on it: 'We would slowly play each chord, obtaining a resonance yet allowing for a reasonable horizontal intonation. […] I

[665] Creitz (2002), 163. Creitz did not become cellist until 1955, after their Op. 5 recording was made. The Pro Arte's second violinist for the recording was Albert Rahier.

remember a six-note whole-tone scale that took a half hour of repetitions before we were satisfied!'[666] This suggests that in the Pro Arte, as in many other quartets, intonation was the product of negotiation and practice rather than strict adherence to theory.

Another possible reflection of personal playing style may be seen in the cello data for the three Juilliard Quartet recordings. The two Juilliard recordings made in 1959 and 1970, after Claus Adam joined as cellist in 1955, are significantly closer to ET than the 1952 recording with Arthur Winograd as cellist. The average absolute deviation from ET for the 1959 and 1970 recordings is only 7.20 and 7.54 cents respectively, but it is 11.77 cents for the 1951 recording [Table 4]. The similarity between Claus Adam's two recordings is interesting, as is the fact that the older cellist, Arthur Winograd, tunes the passage further from ET than Adam. The topic of intonation as an aspect of individual or historical performance style remains to be fully explored, but these clues suggest it could be a fruitful one.

The analysis of standard deviation yielded some interesting results that hint at the influence of specific contextual factors on intonation. In the melodic analysis, the interval with the highest SD (the descending minor sixth C-E in bar 2) occurred at the end of one phrase and the beginning of another.[667] The lack of consistency in intonation between these two notes perhaps shows cellists do not need to preserve 'good' intonation over phrase boundaries and thus have a wider variety of possible tuning options open to them. The consistency in the size of the melodic interval with the lowest SD (the falling major seventh from G to G# in bars 1-2), could have a technical basis: many cellists play the top G as a harmonic on either the C or G string, which constrains its intonation to that of the open string, restricting the possible tuning flexibility of this interval. The minor thirds in the cello ostinato in bars 3-4 also tended to be wider than ET, showing cellists tend to exaggerate the size of this interval, perhaps for expressive reasons (see 4.5. below). The hypothesis that mean SD would be higher in the solo passage was not confirmed by these data (although the short length of the passage and limited number of intervals should be borne in mind). However, the mean SD was higher in the harmonic than in the melodic analysis. This might be a product of the

[666] Ibid., 163.
[667] Most cellists communicate this phase boundary by 'fading away' on the C with the notated diminuendo and a ritardando. Many pause between the C and E.

measurement method or the texture of the passage, or it could suggest that intervals within instrumental parts are tuned more consistently than intervals between parts.

In the harmonic analysis, the interval with lowest SD was, as expected, the second violin perfect fifth in bar 3 that is often played on open strings. The hypothesis that perfect fifths would be performed with the lowest SD overall was also confirmed. The low SD for major thirds (and their enharmonic equivalent, diminished fourths) may, again, indicate the influence of triadic harmonic thinking. It is not immediately clear why minor sevenths, diminished fifths, diminished thirds and semitones should have been significantly widened, but it may be something to do with the texture of the passage. For example, it could be that these intervals occurred predominantly in the C# set. The fact that intervals were significantly stretched in the C# set (set 1), but not the E set or upper parts (sets 2 and 3), implies that, as suggested earlier, any apparent octave stretching actually resulted from the general tendency of cellists to play the C# rather flat. Because the intervals between the cello and upper parts were the widest, this produced an apparent relationship between interval width and stretching, but this turned out to be contextual rather than a symptom of anything more general. With regard to the interval type analysis, it should be noted that there are not equal numbers of each harmonic interval in the passage – some occur only once and some not at all (there are no major seconds, although there are three diminished thirds). Using an artificial test passage with equal numbers of each interval type would allow one to investigate the influence of interval type on intonation more systematically.

Some interesting patterns were revealed by the data that suggested specific aspects of musical context may have more of an influence over intonation than abstract, general rules. For example, in the harmonic analysis, all six intervals that significantly differed from ET were in the first chord of the four. It could be that intonation was more irregular on this chord because the violins and viola had to enter together with only the dissonant cello as a guide and ensemble intonation takes a little while to establish as players adjust to one another. (If, once established, their intonation approximates ET better, this might again suggest ET is the ‘common ground’, the norm.) The melodic and harmonic analyses both found thirds and sixths were considerably closer to ET than they were to JI, suggesting quartet players do not generally tune these intervals to small-number ratios. The exception was the harmonic major third, which was on average narrowed compared to ET and was closer to a just major third (386.31 cents) than an

equal-tempered one. In fact, quartet intonation appeared to approximate ET and JI about equally well for major thirds, suggesting acoustic consonance may play a role in the tuning of some intervals but not others. Perhaps this indicates that triadic principles from tonal music may still exert an influence over tuning, even in this atonal passage.

On the other hand, there were only two major thirds in this passage, and only one of them was significantly narrower than ET; this third (between the first violin G and second violin Eb in bar 3) was also one of the ones tested in the enharmonic equivalence test. In this, the major third was tuned significantly narrower than the diminished fourth, which suggests the notated appearance of these intervals may have been psychologically important in this instance. However, the mean sizes of the second and third pairs did not differ significantly. It could be that the tonal resonances of diminished fifths and augmented fourths, and diminished octaves and major sevenths, are not as strong as for major thirds. These intervals are more dissonant – in both a tonal-harmonic and acoustic sense – and perhaps do not encourage JI as strongly. However, it is also possible that it was the different absolute pitch of the notes in the first interval pair that led to the different performed interval sizes. The fact that the intervals tested were transpositions of one another means this test is far from rigorously scientific – to test whether players consistently distinguish between enharmonic notes using intonation, the interval pairs would have to have been between exactly the same pitches, with note spelling the only difference between pairs. It should also be borne in mind that the third interval pair contains pitches from the first two (so is not independent of them) and that this analysis was based on a much smaller data set than the others, since it only tested six intervals out of 75.

The enharmonic interval test was not conclusive, therefore. However, the possibility that differently spelled intervals could be tuned differently is an interesting one that could be tested further. On some level, it may relate to the use of particular fingering patterns in response to the visual appearance of notation. In tonal music, whether a pitch is given a sharp or flat accidental depends largely on the key, and different keys are associated in string playing with different hand positions. There are clues in the string performance practice literature that intonation may be affected by note spelling. For the cellist Diran Alexanian (1881-1954), the direction of vibrato was affected by accidentals. ‘Every note attracted by another note’, he wrote, ‘should be

played vibrato in the interval that separates it from the note by which it is attracted'.[668] For Alexanian, notes with flat signs were 'attracted' to the note below and notes with sharp signs to the note above, so the player, theoretically, was to vibrate below the note with a flat and above the note with a sharp. The extent to which the harmonic 'gravitation' around stable notes observed in empirical studies of intonation is affected by note spelling is an interesting question. If it is, this suggests that intonation patterns from tonal music might be transferred into atonal music performance as a series of remembered 'gestures'.[669] If a violinist is used to contracting melodic semitones while playing Haydn, for example, then they may well do the same while playing Schoenberg, out of habit, or as a result of expressive intent – these two things may not even be consciously separated. Residual muscle memory is probably important, and these tonal 'traces' may be inseparable from fingering issues, which shows how intertwined physical aspects of performance are with structural understandings of music. The question of whether intonation patterns are reproduced across both tonal and atonal repertoires as a series of remembered embodied-conceptual performance 'gestures' is indeed a topic that would benefit from future research, ideally combining empirical with ethnographic approaches.[670]

It is important that the performed frequency of the fundamentals in these recordings changed constantly as pitches were 'microadjusted', as described by Heyde above. Finding the average frequency necessarily introduced an element of abstraction into the data by smoothing over and eliminating tiny microintonational changes within the note, as well as the larger pitch fluctuations of vibrato and portamento. This made the data easier to handle at the expense of realism, since it produced a single number corresponding to each notated pitch, but one that might have only momentarily occurred in the note on the actual recording.[671] This illustrates that where the frequency of a note is constantly changing, there is no 'true' frequency. What is described as the frequency depends on the level of detail or abstraction. Describing intonation both as an average figure for each note and in terms of detailed microintonational fluctuations (where

[668] Alexanian (1922), 97. I am grateful to George Kennaway for this reference.
[669] I am grateful to Paul Robertson of the Medici Quartet for this idea.
[670] If they are, then one might perhaps expect specialist new music ensembles like the Arditti Quartet to have a somewhat different approach to intonation than quartets who normally play Mozart.
[671] On the other hand, this averaging may not be all that different from what the human ear does: Geringer and Allen summarize a number of studies suggesting the perceived pitch of a vibrato note is very close to the geometric mean of all the frequencies present. Geringer and Allen (2004).

audible) would, therefore, seem to be a sensible way forward. This is what I will do in order to address the seventh question – that of intonation and expression. While the first half of this study was empirical and bottom-up, I shall now take a more interpretative approach. First, I shall look at one particular recording of this four-bar passage – the Artis Quartett's from 1999 – and discuss how the quartet's use of intonation can be integrated into a reading of their performance of the passage. Then, I shall consider some instances of recorded passages where intonation changes work in conjunction with timbral changes, vibrato and portamento and so achieve particular expressive effects.

4.5. Case study: Artis Quartett 1999

The Artis Quartett's 1999 performance has some of the most highly 'coloured' intonation of the 21 recordings of this passage. Much of this comes from the quartet's cellist, Othmar Müller, whose inflections are very audible in the recording [Audio 55]. In this discussion, I shall focus principally on the tuning of the cello melody line that dominates the passage. In the melodic analysis, it was found that Müller's intonation was over 22 cents from ET on average and that he tunes the melodic intervals in these bars a mean 20 cents wider than their equal-tempered value, but this average hides a wealth of interesting detail. The 20 cents figure mainly results from his expansion of the ostinato minor third in bars 2-4 – which moves repeatedly between E and C# – to between 20 and 38 cents wider than equal temperament. As Table 3 shows, the tendency to expand this interval was also reflected in the mean for all performances, although only a little.[672]

Figure 9 illustrates the frequency readings for each cello note in the Artis Quartett's 1999 recording in terms of cents sharp or flat of an equal-tempered scale. The intonation profile from the Artis's 1991 recording and the mean intonation profile across all 21 recordings are also included for comparison and all profiles are adjusted so the starting note is at 0 cents, making the recordings more easily comparable.[673] Figure 9 shows that the C#-Es ostinato thirds are indeed widened, which can be seen in the

[672] It is possible that this is due to the effect of the rather extreme widening in the Artis's 1999 recording on the data, although other cellists widen this interval, too.
[673] The magnitude of intonation deviations in both performances is very much larger than those in the mean, which one would expect, since individual differences tend to average out. The deviations from ET in these recordings are, moreover, particularly marked.

zigzag shape of the intonation profile in the latter half of the graph. One way of explaining the wide minor third interval in expressive terms is by conceiving of the passage as alternating between states of tension and relaxation. The C# can be heard as tense because it forms very dissonant intervals with the upper parts, especially in the two chords in bar 3 [Example 20]. There are no fifths, fourths or octaves in these chords, but lots of tritones, major sevenths and ninths. The cello E, however, is in a slightly less dissonant relationship with the upper parts: it forms a double octave with the viola E in the first chord (the acoustic consonance of this sometimes creates a ringing quality to this chord, at least where the octave is in near-exact ratio) and a compound fifth with the second violin in the second chord. Thus, the C#s create harmonic tension that is periodically relieved by the E. By widening the C#-E interval, and so exaggerating this gesture, cellists can heighten the movement between relatively tense and relatively relaxed harmonic states. In the Artis's 1999 recording, the cello C#s tend to be played very flat: the mean interval between the cello C#s and upper parts is 34.99 cents wider than ET, or more than a third of a semitone. The mean interval between the cello Es and upper parts, however, is 0.79 cents narrower than ET. We saw above that the proposed 'octave stretching' effect appeared to exist only for the C# set, indicating they are played flat relative to the upper parts and the Es, so we might propose this is a more general strategy among cellists. By making the C#s flat in relation to the other parts and the Es in a more exact harmonic relationship, cellists can enhance the acoustic dissonance of the C#s against the upper-part chords, making them even more tense.

This ostinato, repeatedly alternating between tension and relaxation, has a trapped, striving quality: it seems to struggle, but fail, to escape. But the third chord in bar 4 is more consonant – there is an enharmonic triple octave between the cello C# and the D*b* of the viola, while the cello E forms a triple octave with the second violin open E string and a perfect fourth with its A string. The greater consonance of the third chord accentuates it, giving it a sense of weight and emphasis also reflected in the notated dynamics and use of a different timbre in the second violin open-string dyad. Indeed, this is especially audible in the Artis Quartett's 1999 recording, where the open strings ring out [Audio 55]. In the fourth chord, the cello C# forms a compound enharmonic fifth with the viola's A*b*; thus, this short phrase moves from very dissonant to less dissonant (third chord) to slightly more dissonant again (fourth chord). Müller's repeated C#s become progressively slightly sharper over bars 3-4, which could be

conceived in terms of a gradual reduction in harmonic dissonance: he gradually lowers the tension levels by bringing the C#s more 'in tune' with the upper parts. This potential for the subtle manipulation of acoustic consonance and dissonance is contained in the notated harmony and so 'written in' to the passage by Webern, but it can only be fully realised in performance.

Comparing the Artis Quartett's 1999 recording to their 1991 recording [Audio 56], also with Müller as cellist, allows us to hear and see how some aspects of his intonation remained similar across recording sessions eight years apart, while others changed. As Table 5 shows, both the 1991 and 1999 recordings deviate quite widely from ET. Some features are similar: the ostinato in bars 3-4 is performed with the same generally sharpening intonation contour and the repeated C#-E interval is also expanded, although less so than in the 1999 recording, However, in the 1991 recording, both the C#s and Es are played flat relative to the other instruments (the intervals between the cello and the upper parts are expanded by 28.13 and 21.19 cents on average), so there is not the alternation between acoustic dissonance and consonance of the 1999 recording. The opening fourth is considerably contracted, instead of stretched, and Müller marks the phrase boundary in bar 2 with a huge change in intonation, which he does not do in 1999: the interval between the C and E in bar 2 is widened by almost half a semitone to 841.76 cents (in 1999 it is 800.29 – almost exactly the equal-tempered version of this interval). This could perhaps have been unintended – the result of 'overshooting' a change in hand position, for example – but it works expressively by reinforcing the structural boundary between bars 1-2 and 3-4.[674] We can see how grouping structure might be reflected in performance intonation.

I shall now consider the expressive effect of microintonation in the Artis Quartett's 1999 recording [Audio 55] in greater depth. To describe this, we must discard the mean frequency data in favour of spectrograms, which show tiny, but important, intonational nuances. We must also consider how intonation, or pitch more generally, interacts with dynamics and timbre to understand how it can contribute to performance expressivity.

[674] The wide interval in the 1991 recording must have contributed to the high SD for this interval, noted in 4.3.1. above.

The cellist, Othmar Müller, opens the movement with an F# that is dark, dull in timbre, almost non-vibrato and barely audible, then slides up to the B in an exaggerated ascent gesture that 'overshoots' slightly before he corrects it. Even so, the interval is 25 cents wider than ET. The B changes across its duration, becoming initially slightly flatter but much louder, with a richer, brighter timbre (with louder high harmonics) and with a widening vibrato, before sharpening again before the end – the effect is one of growing intensity and warmth, and finally increasing brightness.[675] He crosses the string to play the G, cleanly, loudly and with much vibrato (not as a harmonic) but perhaps slightly flatter than expected, as though he doesn't want to overdo the brightness (this interval is 13 cents narrower than ET) then crosses back to the G#. He exaggerates the width of this falling melodic gesture, meaning the G# starts audibly flat. He then pulls up the intonation, getting progressively sharper as the dynamic softens [Figure 10]. This small adjustment enables him to make a smoother transition (a narrower major third, nearer its just value) to the C, which is played without vibrato, but with a dark and 'breathy' timbre, that is, with lots of bow noise and with prominent first and second harmonics that ring out clearly as the note fades away.

Between the upbeat E at the end of bar 2 and the C# in bar 3, the Artis Quartett's recording seems to present an audible sense of crossing a structural boundary into a new section, against which bars 1-2 can be heard as introductory. (This is implied in the score: the tempo slows to crotchet = ca. 48 and all parts are marked *ppp*.) The new section is characterised expressively by a sense of crossing a threshold into somewhere quite otherworldly, suggested by the tuning of the cello C#, which is very noticeably flat compared to previous notes.[676] The sense of boundary crossing is enhanced by Müller's performance of the falling minor third cello gesture (E-C#). One is reminded of the standard 'sighing' gestures of string writing (strongly implied in the score by the dynamic hairpins >), which in this low cello register sound arguably more like groans. Looking at the spectrogram, one can see how Müller enhances this groaning effect by flattening the intonation of the E, as though the note were straining towards the C# [Figure 11a], and producing an unusual, ethereal timbre in which the higher partials enter before the fundamental [Figure 11b].[677] There is also a momentary flicker of pitch

[675] Sonic Visualiser, peak frequency spectrogram layer added.
[676] Interestingly, in the 1991 recording, it was the previous note, the E, that was noticeably flat. One arguably crossed this threshold a note earlier.
[677] In the Schoenberg Quartet's performance from 2000, this E is also performed with a noticeably falling intonation pattern.

and timbral instability, visible on the right of both spectrograms – almost like a voice cracking, or speech on the edge of crying. This 'groaning' gesture is then repeated. We can, therefore, understand Müller's intonation in this recording as meaningful partly through its acoustic resemblance to vocal sounds. As in *Die schöne Müllerin*, pitch instability appears to be associated with emotional turbulence. We have the impression of something forced and strained – a struggle, not an easy repetition.

In conjunction with the *ppp* muted chords in the high register of the violins and viola, the overall effect of the opening four bars of Op. 5 no. 5 (in fact, the opening nine bars) can be termed 'spectral', in the sense discussed at the end of Chapter 3. Through his use of dark, 'breathy', or unstable timbres, exaggerated intervals and micro-intonational inflections, Müller's performance heightens the eerie quality of the passage in a highly evocative way. In most performances, the tone of all the instruments in this passage is far from 'full bodied', but is very soft, muted, non-vibrato (especially in the upper parts) and, as in Müller's cello line, emphasises the higher harmonics relative to the fundamental. All these aspects of sound might be seen as hallmarks of what could be described as the spectral topic in Webern. Julian Johnson writes how a denial or withdrawal of the corporeal qualities of sound is a common expressive trope in Webern and describes it in terms of 'desubstantialisation'.[678] This trope is suggested through the use of alternative string timbres (am Steg or muted playing) and through the use of 'gestures of evaporation or evanescence', often signified by the performance direction 'flüchtig' [fleetingly].[679] This evanescent topic dominates Op. 5 no. 5, he writes, in which 'vestigial melodic fragments merg[e] into ostinato figures' – an apt description of this cello passage.[680] It is also suggested by the use of very soft dynamics fading into silence, a common device in Webern, as discussed in the previous chapter.[681] According to Johnson:

> The attempt to take the sound material into a realm of inaudibility (while still playing) is a musical cipher for straining beyond the conditions of the language and as such is a quintessentially romantic device. […] The diminuendo beyond the limits of audibility implies the idea of something being said just out of reach, beyond the limits of our perception.[682]

[678] Johnson (1999), 72.
[679] This performance direction appears over the ascending second violin gesture at the end of Op. 5 no. 4, for example.
[680] Johnson (1999), 121.
[681] And also in Berg: at the end of the *Lyric Suite*, the staves gradually disappear as the instruments fade away and drop out one by one.
[682] Johnson (1999), 72.

The perceptual basis of this, he writes, is that diminuendi evoke the sound of an object moving away from the listener until it can no longer be heard.[683] This suggests how the ways in which sounds specify types of movement in space can be manipulated for expressive purposes.

Could intonation also be perceived in spatial and motional terms? For example, if a diminuendo into silence resembles the sound of an object moving away and a crescendo, conversely, an object moving towards the listener, one might ask whether performers ever try to create a 'Doppler effect', sharpening during crescendi and flattening during diminuendi?[684] One example of this happening occurs at the end of the Juilliard Quartet's 1970 performance of the first movement of the string quartet, Op. 28, on the 1978 Boulez set [Audio 57]. The final note of the movement – the Eb in the viola – is very noticeably flat, but, coupled with the *ppp* dynamic, this produces a wonderful effect of something dying away into the distance. Close listening seems to suggest, however, that the connection between dynamics and intonation is more often an inverse one: performers tend instead to get sharper during diminuendi and vice versa, as in Müller's G# shown in Figure 10 above. Why could this be? One might suggest that it has to do with the holistic perception of intonation. We have already noted that there seems to be a three-way association between pitch, timbre and loudness, described using the metaphor of 'colour'. Louder notes may be more likely to be performed with vibrato, which gives the note a 'brighter' sound. A string player performing a note with a diminuendo and simultaneously reducing the width of the vibrato, as Müller does, may then have to compensate for this loss of overall brightness by sharpening the intonation, to avoid sounding flat.[685] This could be affected by the use of gut strings, which get slightly sharper the louder one plays, which would again suggest some tuning compensation is necessary. As this micro-example suggests, practical and expressive concerns often merge in intonation. Tiny negotiations have to be constantly made from moment to moment, based on myriad interlocking factors. Which one was most decisive can be difficult, or impossible, to tell, yet the musical effect of these subtle intonation inflections can be very meaningful nonetheless.

[683] This is also demonstrated by Eitan and Granot (2006).
[684] See Neuhoff and McBeath (1996) on the Doppler illusion.
[685] Because of the sharpness propensity (see 4.1.1. above), listeners are more sensitive to flat intonation.

4.6. Intonation, portamento, vibrato and ensemble

The Artis Quartett's 1999 recording, then, has shown how intonation, timbre and dynamics all operate as complementary performance parameters, sometimes coupling and reinforcing each other, sometimes modifying or compensating for each other's effects to create a shifting palette of sound, full of subtle nuances of brightness and colour. Indeed, looking closely at individual notes on spectrographic programs such as Sonic Visualiser makes abundantly clear that intonation is inseparable from vibrato and portamento: in practice, they all merge into a single, flexible pitch parameter. The cellist has a number of opportunities to slide in this passage and many do, mostly during one or two of the first three intervals, especially up to and/or down from the top G. As might be expected, portamento is particularly audible in the oldest recordings. The cellist in the Juilliard Quartet 1952 recording, Arthur Winograd (born 1920) slides between all four opening notes [Audio 58] but the most striking use of portamento is in the Pro Arte Quartet's recording from 1950 [Audio 59]. The cellist, Ernst Friedlander (born 1906) slides not only over the G-G# interval, but semi-slides between E and C# on every single repetition, emphasising their character as falling, 'sighing' gestures in a more exaggerated way to the Artis. According to Neil Heyde, the use of a soft gut C string in this recording makes it easier for Friedlander to render the gestural quality of this 'expressive' interval in a way that is not quite portamento, but something close to it.

We saw above that intonation is often perceived as inseparable from timbre and loudness. Even intonation and rhythm may be perceived interdependently. According to Boulez:

> You can perfect intonation […] but if you are not absolutely together, it will give the impression of bad intonation. Because this kind of rhythmical inaccuracy spills over [into] the intonation and gives you the impression that the tone is not pure, really, and not well tuned together. So, you have a mixture of rhythmical accuracy, tuning, and also, especially for the wind instruments and for the brass, the *quality* of the sound. […] And for me the quality is especially to have this unity, not only in the intonation, but in the timbre, and in the rhythms.[686]

In the upper parts, as we saw earlier, the instruments must enter simultaneously on chords that are difficult to tune. The intonation of these chords has a definite effect on their overall sonority; however, unity of timbre and synchrony in timing between the

[686] Boulez (2005).

entries of parts also contributes to their sonority, to the extent to which they are perceived as unified. In the Emerson Quartet's 1992 recording of bars 3-4, for example [Audio 60], the upper parts are very well blended timbrally and absolutely synchronised rhythmically. In the Pro Arte's Quartet 1950 recording, on the other hand [Audio 59], the parts are less well synchronised and 'together'. The first or second violin tends to enter first, which may reveal something about how the whole ensemble conceives of their voicing, about who is tuning to whom.[687] Interestingly, both Neil Heyde of the Kreuzter Quartet and Paul Robertson of the Medici Quartet point out that social relationships within string quartets may influence their intonation: members may tune to the player who is most dominant, either in a temporary, purely musical sense (having the melody line, for example) in egalitarian quartets, or, in quartets with strong leader, in a more personal sense.[688] As Heyde says: 'A quartet is never, ever democratic. It's always being led by someone.'[689] In his study of string trio intonation, Shackford informally noted that the largest distinctions in pitch seemed to be made by the dominant member of each group.[690] Investigating these onset asynchronies may help shed light on how the process of negotiation in ensemble intonation works and how the musical and social relationships between the members of string quartets may have audible results.[691]

As a final example, I wish to highlight the use of vibrato to achieve a very odd effect in the Quartetto Italiano's 1970 recording [Audio 61]. Figure 12 shows a PRAAT screenshot of the first E and C# in the Italiano's cello ostinato passage.[692] The vibrato is extremely slow – around 2-3Hz, as compared to the 6-8Hz of normal vibrato. Whereas at faster vibrato rates the ear extracts the average of pitch fluctuations and vibrato is heard as an aspect of colour or timbre, here the vibrato is so slow that it can clearly be heard as an undulation in pitch. This creates a whirling, flanging effect as the harmonics of the cello move in and out of acoustic consonance with the other parts, which can again be interpreted in terms of the spectral topic. Like the Artis, the Italiano use pitch

[687] The first note of the first violin part in the Pro Arte recording is also an obvious intonation error and is audibly flattened.
[688] Personal interview and conversation.
[689] Although he then added: 'That someone will be different the whole time' (depending on the musical context).
[690] Shackford (1962a), 68.
[691] It is perhaps noteworthy that the Emerson Quartet has no single leader (the two violinists take turns at the role) whereas the Pro Arte Quartet had a very strong leader in Rudolf Kolisch.
[692] PRAAT is a freeware spectrum analysis program downloadable from http://www.fon.hum.uva.nl/praat/.

fluctuations to create a sense of passing into somewhere quite otherworldly and mysterious at the end of bar 2, but in a completely different way. A common expressive character seems to be perceived by many quartets in this passage, yet the technical methods by which they communicate this character in recording can differ widely, even if they follow the meticulously detailed notated tempi and dynamics to the letter. Even in a score as specific as this, there are many different ways of being 'faithful'.

4.7. Conclusion

The empirical study in the first part of this chapter was originally devised in order to test the idea that equal temperament is a norm in performances of atonal music because of the alleged need to communicate enharmonically equivalent semitones clearly. It did not answer this question conclusively, although it did not rule out the possibility that ET is used as a norm by at least some ensembles. There were three main limitations to the study. The first was that the threshold for significance was set quite high, at 10 cents, which did not allow interval sizes to be compared to those of different tuning systems, except in the case of just versus equal-tempered thirds and sixths. The second was that the intervals in the harmonic analysis were not independent of each other, since all possible simultaneous intervals were calculated between the six notes of each chord. This meant that it was impossible to say with confidence whether, for example, the differences between interval types were the result of more general effects (such as a connection between the acoustic consonance of an interval and its range of acceptable tunings), or specific contextual factors to do with, say, texture or fingering. This is related to the third limitation, which is that the musical passage had to be very short, due to the fact that the manual measurement method was very time-consuming. There are severe limitations to the extent to which one can extrapolate general principles from four bars of music. With regard to the question of whether performance is becoming closer to ET over time, for example, one would have to consider much longer musical examples from a greater pool of recordings of different types of music. Faster automated measurement tools would enable longer passages to be studied, which would open up several more interesting routes for further research. For example, the influence of harmonic language on intonation could be studied, which, ideally, would involve comparing intonation in performances of specially-composed tonal, atonal and perhaps

even serial musical extracts with the same texture, tempo, rhythm, and so on, using the same analytical methodology.

Despite their limitations, the empirical analyses highlighted some very interesting commonalities in intonation between recordings that seemed to arise from particular characteristics of the musical passage. Similarities between local intonation patterns across recordings sometimes appeared to reflect phrase boundaries or aspects of instrumental technique. It may well be that intonation is a very context-specific phenomenon, more dependent on local factors than general rules, as other research so far seems to suggest, but only further studies will show the extent to which this is the case. The relationship between intonation and grouping structure, for example, could be a potentially fruitful avenue of investigation. One might expect intonation to be more consistent and regular within structural sections than between them, something implied by the high standard deviation in tuning over the phrase boundary in this study.

The extent to which intonation may be an aspect of individual, ensemble or period style is also an interesting question. From these analyses, intonation appeared to be quite individual to each performance, although some commonalities existed between the two Artis Quartet recordings that suggested specific tuning patterns might be remembered between successive performances many years apart. These might relate to aspects of technique, such as fingering, that could remain quite stable across time. On the other hand, the similarities in intonation profiles between the two Artis recordings were not particularly striking: if one were comparing the timing of two performances by the same performer, made eight years apart, one would probably expect the profiles to bear a closer resemblance than this. It may well be that intonation is a less consistent, less stylistic and more situation-specific, ad hoc aspect of performance style than timing. The idea that intonation may be affected by social and musical hierarchies within a quartet suggests it may be mediated on some level by ensemble style, which, in close-knit quartets, as we saw, is typically the result of a long process of negotiation between players that can last years. This is undoubtedly a complex and potentially sensitive topic of research, but it could be a fascinating one.

The broad array of factors that could potentially be held responsible for intonation patterns meant that it was often impossible to say with any certainty why certain intonation choices were made by performers (although one could sometimes

take a reasonable guess), or even if they were 'choices'. Heyde, especially, describes intonation as an aspect of performance that is partly conscious, partly unconscious, only semi-systematised (and then, only in some situations), and rarely talked about as such. This adds further complexity to the issue of intentionality: can something be 'intended' if it is not consciously processed? And perhaps even the issue of mistakes is not clear-cut: even 'accidents' can be perceived as meaningful (especially on a recording played many times over).

In the close analysis of microintonation in the Artis recordings, much meaningful information was contained in the moment-to-moment flux of intonation. Indeed, close listening combined with spectrographic analysis reveals that pitch fluctuations can contribute much to the expressive impression of a performance. For example, in this four-bar passage, the pitch changes – in combination with dynamics and timbre – could be seen to enhance the spectral, ghostly expressive character of the passage, but in different ways in different performances. The study suggested that intonation, like other aspects of sound, may be meaningful through its acoustic resemblance to motion and vocal sounds. The direct resemblance between vocal intonation and musical intonation seems clear. To discuss the relationships between intonation and motion, we must distinguish between the real physical movements made by the performer, and the conceptual notions of embodied movement experienced by the listener. From a string player's point of view, intonation relates directly to physical movement – that of fingers and bows on strings – and, like all aspects of performance technique, is largely conceived in kinaesthetic terms and encoded in motor memory. The fact that it is often hard to tell to what extent intonation patterns are the result of physical aspects of instrumental technique on the one hand, or conscious conception on the other, is interesting. It suggests that the two cannot be as rigorously separated as has often been maintained and should be thought of as lying on a continuum, with conscious expressive schema arising out of – and being formed in relation to – the basic physical possibilities and constraints of playing an instrument.

Intonation may relate to physical motion from a listener's perspective, too. Evidence that tuning may be perceived in relation to patterns of physical motion is contained in verbal metaphors like the notions of 'tonal gravitation' or the 'stretching'

or ‘compression’ of intervals in pitch ‘space’. Boomsliter and Creel’s study[693] suggests how a duality of spatial distance (tension, instability) and proximity (relaxation, stability) could be mapped onto pitch via the idea of notes being in ‘extended reference’, and thus a tense relationship, to the tonic. And the idea that expanded melodic intervals have a ‘dynamic’ quality suggests how intonation can enhance patterns of musical motion, or gestures, already implied by melodic contours. I suggested that performers may couple pitch and loudness to evoke the Doppler illusion, but more often seem to do the opposite, using pitch and loudness to moderate each other. The ways in which pitch interacts with timbre, dynamics and ensemble synchrony – both perceptually and from a performer’s perspective – could be further studied. For example, to what extent does performers’ intonation reinforce or contradict the structural sections and expressive gestures created by timing and dynamics?

The idea of intonation as colour seems to offer a quite different explanation of how intonation might be perceived as meaningful, involving cross-modal mapping from the visual onto the aural sensory domain. It seems to indicate that the pitch-timbre-dynamic percept can be perceived qualitatively, as visual colour is. Research into neural linkages between visual and auditory modes of perception could help us understand this, particularly research into synaesthesia.[694] The ways in which this notion of intonation-as-colour relates to the visual appearance of notes and accidentals is also interesting: for example, Powell and Dibben note the striking persistence of key-mood associations (brightness with sharp keys and mellowness with flat keys), among twenty-first-century listeners, despite the widespread modern use of equal temperament.[695] In the Webern passage, note spelling appeared to influence intonation for one of the enharmonic interval pairs, which suggests the possibility of a kind of multi-way cross-modal association between the ‘colour’ qualities or ‘brightness’ characteristics of notated accidentals and the identity of intervals in tonal pitch space and hints at the rich multiplicity and interconnectedness of the neural networks that are stimulated by music.

Although this study has probably raised more questions than it has answered and the topic of intonation appears at the moment to be rather a mysterious one, there is no

[693] Cited in 4.1.1. above.
[694] Perhaps these colour-tuning associations are on a continuum with synaesthesia, a condition in which these cross-modal connections take on a stronger subjective presence. See Harrison (2001), Cytowic (2002).
[695] Powell and Dibben (2005).

reason for it to stay that way. The next chapter will examine timing – an aspect of performance about which more can be said with confidence.

Chapter 5

Timing in recordings of Op. 27/1

5.1. Introduction: Analysis and performance

Webern's Piano Variations, Op. 27, is an iconic work – not only his most recorded, but also probably his most analysed, thanks partly to the relative ease with which it can be played through on the piano by one person (though performance is another matter). Its serial structure is also quite transparently rigorous: the first and second movements make very audible use of vertical and horizontal symmetries. Most of the many Op. 27 analyses focus on these serial, 'constructive' aspects of the work: Howard Riley's short 1966 article on the first movement, for example, is subtitled 'A study in constructive procedures'.[696] However, as we saw in Chapters 1 to 3, the Piano Variations also became a focal point for debates about Webern performance style from the 1950s onwards, thanks largely to the vociferous and insistent campaigning of Peter Stadlen, which culminated in the release of the Op. 27 performance score in 1979. As we saw in Chapter 2, Stadlen argued that, though the elegant serial symmetries might appear to be static, they should be played with a great injection of dynamism and exaggerated gesture, as though to compensate. Adorno argued along similar lines. For Stadlen and Adorno, the serial structure itself was essentially meaningless and, therefore, incommunicable, meaning the kind of highly rhetorical style outlined in the 1979 performance score [Examples 7 and 8] was necessary to mitigate against this monotony, to lend it, in Adorno's words, a mere 'shadow of meaning'.[697]

In this chapter, I shall explore pianists' timing in recordings of the first movement.[698] Can we reconcile the evidence, contained in the performance score, that Webern wanted this piece to be played with the utmost expressivity with the structural facts about the piece revealed by analysts? If not, then can pianists' timing patterns be related to other aspects of the movement's structure instead? These questions inspired the following study. First, however, a brief formal description of the movement is necessary.

[696] For example Klammer (1959), Cone (1960), Lewin (1962), Westergaard (1963), Riley (1966), Rives Jones (1968), Schnebel (1984), Wason (1987), Bailey (1991) and many more.
[697] Adorno (2006), 87. Previously quoted more fully in Chapter 2.
[698] This approach to Op. 27 has previously taken by Ritzkowski (2006), although he only analysed data from six recordings. I am grateful to Nicholas Cook for access to a large number of these recordings.

The first movement of Op. 27 [Example 7][699] is in a clear ternary form, with two calmer outer sections A and A1 (bars 1-18 and 37-54) in even semiquavers flanking a more turbulent central B section (19-36) with a dynamic and registral climax at the golden section in bars 33-34. Each of the three sections is exactly 18 bars long and the time signature is 3/16, with no changes in notated metre. The movement is clearly divided into phrases, especially in the outer sections, where each phrase and sub-phrase is separated by a semiquaver rest. The music's more radically modernist character lies in its spare pianistic texture (largely based around single notes and dyads), the fact that the rhythm and phrase lengths bear virtually no audible relationship to the metre (the regular length of the sections is achieved by an incredible feat of mathematical calculation) and in the fact that its pitch material is based on a twelve-note row. Webern simultaneously combines the row with its own retrograde, producing horizontal palindromes.[700] The transpositions of the row used at the opening of the first movement (P8 and R8) are shown in Figure 13. The rows are distributed between the pianists' hands – in the first use of the row in bars 1-7, for example, the right hand plays the retrograde and the left the prime – but the rows then cross at the middle point (the central tritone D-G#, or D-Ab), meaning that each hand plays the notes at the end of the palindrome it played at the beginning. Although every pitch class can be accounted for by serial thinking, the rows are manipulated in certain ways: their pitches are combined vertically to produce chords, notes are elided and changes in register produce asymmetrical contours. For example, while the pitches of the first two palindromes (bars 1-7 and 8-10) are exactly reversible, the pitches in the third (bars 11-15) are not: the row forms do not cross in the middle and the phrase follows a descending contour from the top B in bar 11 to the low G in bar 14. Moreover, the rhythmic structure of the palindromes is not always exactly symmetrical either – as in the left hand part in bars 3-5. In the A and A1 sections, the palindromes correspond to musical phrases, give or take a few elisions, but in the B section, there are numerous overlaps and disjunctions between what might be called 'background' pitch organisation and 'foreground' texture.

[699] Example 7 actually shows Peter Stadlen's performance score (UE 16845), which will be discussed below. The original published score is simply the performance score without the red and green markings.

[700] The second movement follows the principle of vertical symmetry: pitches are distributed about a central axis – the A above middle C.

Jonathan Dunsby wrote in 1989 that:

> Despite the insistence of the Second-Viennese composers that it is how the music sounds which matters, not how it was made, everybody now accepts that a sensitive performance of these post-tonal scores, especially perhaps of Webern's, is unlikely to occur unless the performer is thoroughly familiar with the interval properties of the tone row or rows and the rhythmic structure of their presentation. Every detail of the score and all the interrelationships are considered vital study for the performer.[701]

Webern did, indeed, believe that it was how the music sounded that mattered. In fact, we saw in Chapter 1 that he refused to discuss the work's dodecaphonic structure with Stadlen, telling him that, as the performer, he only needed to know 'how the piece ought to be played, not how it is made'.[702] In his 1958 article 'Serialism reconsidered', Stadlen says that Webern:

> [A]cted as if he himself were not aware of the serial aspect of his work, or at least never thought of it when playing or discussing it. He seemed to imply by his behaviour that both he and we need only be concerned with the *prima facie* appearance of the correspondences and structures as we see them in the score and as they are made to sound according to this instructions – and that knowledge of their serial implications was not required for a full appreciation of the music.[703]

Webern 'evidently did not expect us to be directly aware of these [serial] processes', he continues, although he speculates that the composer may have considered the series to exert a subliminal effect, like 'a dash of very special rum which was not meant to be, and could not be spotted – and yet was responsible for its taste'. Stadlen, however, questioned whether the serial manipulations were audible at all, 'whether, however subliminally administered, it [the serial structure] does in fact make a difference to the taste of a composition'.[704] According to Stadlen, the interpolations and transpositions involved in serial manipulations and, especially, the fact that row forms were often arranged vertically, as chords (as in the first movement of Op. 27), destroyed the ordering of the notes and so any identity the row had ever had, rendering it 'meaningless'. 'Simultaneity is not just another aspect of sequence', he wrote, 'but its obliteration'.[705] By 1961, he had begun to lambast the 'inaudible mathematical kinships

[701] Dunsby (1989), 6.
[702] Stadlen (1979), previously quoted in Chapter 1. See also Stadlen (1958a), 16.
[703] Stadlen (1958a), 16.
[704] Ibid., 17.
[705] Stadlen (1958b), 65.

between parameters' of contemporary twelve-note music.[706] Stadlen's original 1958 article provoked an angry response from Roberto Gerhard: 'In the artist's work, reason and poetic imagination may be by chance have been made to fuse, at some high temperature; why should you wish to undo the compound?'[707] In an earlier article, Gerhard had said that, although he did not believe the series was directly audible, this did not matter, since it was:

> Entirely and exclusively the concern of the composer. […] [T]he listener is not supposed to detect the 'series' on which a given piece of twelve-tone music is based […] That, incidentally, can only be discovered by analysis, and although listening and analysis have certainly something in common, they are basically antithetic mental operations.[708]

However, he then suggested the series may be perceived unconsciously or subliminally, like Webern's 'special rum':

> To insist, however, that twelve-tone technique is no concern of the listener, is not to say that he is not affected by it. […] The fact that the listener may remain unaware of the specific effect it has on him does not in the least detract from the reality of that effect.[709]

Opinions on the audibility of twelve-note series since then have tended to fall into either the 'special rum' camp or to subscribe to Stadlen's belief that the serial ordering is essentially inaudible at all in most, if not all, serial compositions. Ernst Krenek wrote in 1960s that serial music had 'turned away from its rhetorical past' and did not 'communicate' in the same way as traditional tonal music.[710] Fred Lerdahl, writing of Boulez's *Le marteau sans maître*, writes that nobody 'could figure out, much less hear, how the piece was serial […] There is a huge gap here between compositional system and cognized result'.[711] Research into the perception of twelve-note rows tends to suggest that people are not very good at perceiving retrogrades or inversions as similar to the original row.[712] Nor are they good at perceiving other atonal, but non-serial pitch structures either hierarchically, or as related to one another.[713]

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[706] Stadlen (1961b).
[707] Gerhard (1958), 51.
[708] Gerhard (1952), 28.
[709] Ibid., 29.
[710] Krenek (1960), 231.
[711] Lerdahl (1988), 231.
[712] Summarised in Krumhansl, Sandell and Sargeant (1987) and McAdams (1989). However, Krumhansl, Sandell and Sargeant's own study did find large differences in ability between individuals: some listeners, but not all, could perceive serial structures as invariant despite mirror transformations, the transposition of some notes by an octave and variations in rhythm

If the perceptibility of serial structures by most listeners is seriously doubtful, then what – if any – is the value of serial analyses for performers? Is it really important that they are 'thoroughly familiar with the interval properties of the tone row or rows' in the work if such interval properties are not communicable to an audience? This illuminates the problematic nature of the relationship between analysis, particularly serial analysis, and performance. Perhaps serial structure is an analytical finding that is simply not projectable. As Joel Lester writes, one of the:

> [E]xceedingly difficult issues of analysis and interpretation [is] deciding when and how to project an analytical finding, and conceptualising the status of an analytical finding which is not projectable. I do not believe that all analytical findings need to be projectable or indeed projected.[714]

William Rothstein asks how, or whether, the results of analyses should always be conveyed to the listener. The idea of 'bringing out structure', he says, can be a 'dangerous half-truth'.[715] There is a difference between analytical and dramatic musical truth, he continues: 'The performer's task is to provide the listener with a vivid experience of the work, not an analytical understanding of it'.[716]

The idea that the serial structure of the first movement of Op. 27 might not be projectable, or at least was an aspect of the movement Webern did not want projected, is illustrated by the fact that the melody notes circled in the outer sections of the performance score [Example 7], cut right across the series and appear to have nothing to do with it; rather, they seem to emerge as products of the textural and registral positioning of pitches and their combination as simultaneities.[717] Christopher Hasty points out that in conventional analytic theory, pitch serves as a 'privileged domain' and analysts typically assume that the row is in some sense the 'basis' for Webern's compositions:

> And yet pitch-class relations *per se* offer us little insight into the totality of musical organization. Meticulously crafted details of duration, accent, contour, and instrumentation can rarely be rationalized by the serial structure, and when

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and phrasing under limited conditions. This suggests perceiving retrogrades as the original pitch material played backwards, for example, might be a specialist skill that can be learnt.

[713] Bruner (1984); Dibben (1994).

[714] Lester (1995), 210.

[715] Rothstein (1995), 218.

[716] Ibid., 238.

[717] This point has been made by Nicholas Cook, criticising Robert Wason's (1987) attempts to relate the expressive markings of the performance score to the serial structure. Cook (1999b), 50.

> they are treated by analysts, they are generally relegated to the "musical surface" – a surface curiously detached from the serial "background". In view of the frequent lack of connection in Webern's music between the deployment of row forms and the articulations created by the interactions of all domains, such a surface would seem to function to conceal the true structure of the work.[718]

This would seem to reinforce Stadlen's idea of a 'dialectic' between hidden, submerged serial structure and the structural aspects of the piece that are directly relevant to performers: duration, accent, contour and, one might add, phrasing.

Stadlen's comments in a 1972 interview, however, open up a further complexity. We saw above that in the outer sections of Op. 27/1, the palindromes normally correspond to phrases, while in the middle section the two cut across one another more. According to Stadlen, rather than simply reproducing the 'pre-classical shapes' (the palindromes) clearly, one should sometimes actually play against them, try to obfuscate and obscure this aspect of structure, too, in order to confound and mislead the listener:

> [W]hen one looks at the printed page one sees very artistic mirror forms and retrogrades, but what he [Webern] wanted in performance was not only something additional, a technique of playing this or that, but something that […] occasionally even contradicts the construction, something that destroys it, so that when the listener comes across it played correctly according to Webern's instructions, he must – or should – be misled now and again. There's a dichotomy between the construction (and here I'm absolutely not talking about the twelve-tone aspect, but only about the pre-classical shapes he made) and the expression.[719]

It is notable that Stadlen distinguishes here between the palindromes and the twelve-note rows that form them. This seems to be a valid distinction, for while it would be difficult to claim that the twelve-note rows are directly audible in themselves – at least in the sense that one cannot 'follow' them aurally as one would a melody line – the palindromes themselves certainly are, or at least aspects of them are. The immediate

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[718] Hasty (1988), 285.

[719] 'Das Merkwürdige ist, daß, wenn man das Notenbild anschaut, man da Spiegelbilder und Rückläufe sieht, sehr kunstvoll, aber das, was er wollte, worauf es ihm in der Aufführung ankam, war nicht nur etwas Zusätzliches oder die Art, in der man nun diese oder jenes zu spielen hatte, sondern etwas, was dieser Konstruktion gelegentlich sogar, wie man zeigen kann, zuwiederlief, sie wieder zerstörte, so daß der Zuhörer, wenn er das nach Weberns Angaben richtig gespielt vorgesetzt bekam, hie und da irregeführt werden mußte oder werden sollte. Es war da schon eine Dichotomie zwischen der Konstruktion (und da sag' ich noch gar nichts von dem Zwölftonaspekt, sondern nur von den vorklassischen Gebilden, die er da gemacht hat) und dem Ausdruck.' Stadlen in Pauli (1984), 275. By talking about 'pre-classical shapes', Stadlen points out the resemblance between Webern's mirror-forms and the canonic techniques of 15th and 16th-century vocal polyphony.

repetition in reversed form of the central tritone – the point where the prime and retrograde forms of the row cross – is especially obvious. Indeed, Webern makes an expressive feature of this, since the row is distributed physically between the hands: as we saw, each hand plays one version of the row while the other plays its retrograde. This means that the pianist must constantly cross and uncross her hands; indeed, this constant hand-crossing is probably the most immediately memorable feature of the work for a player. The crossings can sometimes be very awkward, though the comment in the performance score written over the wide tritone figure in bars 20 and 21 of the first movement – 'Handablösung erst im letzten Moment, fast zu spät' [change hands only at the last moment, almost too late] shows this awkwardness was likely entirely deliberate.[720] Here the pianist's arms are crossed to play the low C# with the right hand and the high G with the left hand, whereupon she must quickly change hands on the G, uncrossing the arms. Doing it 'at the last moment', enhances the theatricality of the gesture, the sudden transition from a state of physical tension (arms crossed uncomfortably) to release (arms in a natural piano-playing position). The hand swapping in the second movement [Example 8] is even more playful in its extremity.[721] In both these cases, the left hand part is notated in the lower and the right hand in the upper stave, making the notation, too, part of the 'game'. As Edward Cone writes, in Op. 27:

> [T]he play of the two hands against each other – each representing an implied virtual agent – is an essential element of the structure, sometimes clarifying, sometimes counterpointing, the twelve-note structure and the basic linear directions.[722]

We can see, then, that there are many layers of structural thinking going on in the first movement – the row forms, the palindromes, the phrases, the contours, the melody notes (in the performance score), the 'play of the two hands against one another', not to mention the rhythmic, metrical, textural, motivic and even harmonic layers that will be discussed further below – which seem to correspond to each other in some ways and to contradict each other in others. Stadlen talks of 'contradicting the construction', but in many ways the construction contradicts itself.

[720] This also applies to the tritone figures at bars 24 and 28.
[721] As discussed in Chapter 3, these kinds of physical gesture can be communicated to a live audience, but not directly in recordings.
[722] Cone (1974), 138.

In the following analysis, I shall consider how performers respond to different aspects of structure in the first movement of Op. 27 through timing – either by expressing them and reinforcing them, or alternatively by disguising them, 'playing against' the structure in the manner described by Stadlen. I shall first describe an empirical analysis of timing in recordings of the first movement, then discuss the relationship between musical structure and expressive performance gestures, with particular reference to Krystian Zimerman's 1995 recording on the second Boulez set.

5.2. Method

Timing data was gathered from 51 recordings of the first movement of the Op. 27 Piano Variations, recorded between 1948 and 2009. These recordings are listed in Table 10.[723] There were four recordings by Glenn Gould (from 1954, 1957, 1964 and 1974), two by Peter Serkin (from 1983 and 1994) and two by Mitsuko Uchida (from 2000 and 2009). All the other pianists were represented by one recording each. Data was gathered using the tapping method in Sonic Visualiser.[724] Because the outer A sections of the ternary form are notated almost entirely in even semiquavers and semiquaver rests but the central B section is more rhythmically complex [Example 7], the tempo readings from the notes from the B section were multiplied by a value corresponding to the theoretical timing value of the note in the score – 0.5. for a demisemiquaver, 1 for a semiquaver and 1.5 for a dotted semiquaver (or a semiquaver tied to a demisemiquaver). There are many rests in the movement, which were tapped intuitively; this was felt to be a more natural and 'musical' way of dealing with them than simply dividing the time between audible onsets by two. However, these intuitive tappings do introduce an element of subjectivity into the data that should be borne in mind.[725]

Some basic analyses were conducted first: the mean tempo (in beats per minute) per performance was found and a linear regression against the year of recording performed to see whether recordings of this movement have got slower since the 1950s,

[723] Full information about the recordings is available in the Discography.
[724] Described in Note on the Text.
[725] As in the timing study in Chapter 3, the point at which the performance was considered to have ended could also be quite subjective. This was especially the case with recordings in which the pianist sustained the final chord into silence, as opposed to audibly lifting their hands off the keys.

in keeping with the trend described in Chapter 3.[726] The standard deviation (SD) in the timing data for each performance was found, which provides a measure of the overall variation in timing across the recording and so a rough numeric description of the amount of rubato. A linear regression was also performed between SD and year of recording, to see whether the amount of timing flexibility in recordings of this movement has measurably increased over the last 60 years. Next, the mean timing profile of all recordings was found, producing a theoretical 'average performance' that allowed one to see the strongest commonalities in timing patterns used by many pianists.[727] Are there any instances of structural features of the movement being reflected in timing? If so, which features do performers focus on and how do they communicate them? Mean profiles were then produced for the recordings in each decade from the 1950s to the 2000s[728] to see whether any general stylistic trends were apparent in the timing data. For example, do 1950s pianists use less rubato in performances of this movement, as suggested in Chapter 3? Finally, a correlation matrix was produced from the data,[729] using the z-scores of the data, where $z = (x - \text{mean})/SD$. This scaled all the data from different recordings so that they had the same mean and standard deviation, making them more directly comparable and removing the influence of absolute tempo. The aim of the correlation analysis was to see which recordings were most similar or different to each other in terms of timing. Are there instances where these similarities or differences appear to be reflective of wider stylistic factors or can they be tied to general timing strategies? Moreover, how well correlated are the repeated recordings by Gould, Serkin and Uchida? One might expect pianists to preserve a certain degree of consistency in their approach to playing the same work, but to what extent is this reflected in their timing?

[726] It should be noted, however, that the average tempo analysis in Chapter 3 was based on duration data, whereas this is based on more accurate timing data gathered from inter-onset-interval information. The results may not exactly agree, therefore.
[727] The average graph tends to imply less timing flexibility than the majority of the other performances, since timing differences in individual performances cancel each other out, leaving only the broadest commonalities. Repp (1997) discusses the advantages and disadvantages of mean timing profiles.
[728] Peter Stadlen's recording was excluded from this decade-by-decade analysis as it dates from 1948.
[729] The Mazurka Project online Correlation Network Diagram Generator was used, available at http://mazurka.org.uk/cgi-bin/cornet. [Accessed 2 May 2010.]

5.3. Results

The results of the tempo and standard deviation analysis are shown in Table 11. The recordings of the first movement of Op. 27 with the fastest average tempo were Glenn Gould's 1957 recording and Barry Douglas's 1991 recording (both with a mean tempo of semiquaver = 130 beats per minute). The slowest was Christoph Eschenbach's 1996 recording, with a mean tempo of 72 beats per minute. Only four out of 51 recordings adopted faster average tempi than the dotted quaver = ca 40 given in the score (which equates to semiquaver = 120). These were Gould's from 1957 and 1964, Douglas's from 1991 and Mitsuko Uchida's 2009 live concert recording (one of the few recordings discussed in this thesis not to have been commercially released). The linear regression between average tempo (in beats per minute) and year of recording showed no significant relationship (R^2 = .007, p = .25, 49 *df*). The recordings with the highest SD were Jeanne Manchon-Theïs's 1954 recording (66.37), Uchida 2009 (50.01) and Stadlen 1948 (42.81). The recording with the lowest SD was Eschenbach 1996 (15.26). The linear regression between year and SD showed no significant relationship (R^2 = -.02, p = .82, 49 *df*).

The mean timing profile in Figure 14 shows very clear phrase arches, with ritardandi at phrase boundaries marked by the troughs on the graph.[730] As predicted by Neil Todd's model,[731] the amount of slowing broadly corresponds to the importance of the structural boundary: the three deepest troughs are at the end of the whole movement, then at the end of the B section in bars 36-37, then at the end of the A section in bars 18-19. The B section contains larger timing fluctuations (more rubato) than the A and A1 sections and the fastest tempi are reached in the second half of the B section, near the climax at the golden section. Texturally similar material is played with almost identical timing patterns: for example, the large-scale textural and rhythmic similarity between the A and A1 sections is clearly reflected in the similarities between their mean timing profiles, although the A1 section is performed more slowly on average and with a marked ritardando towards the end. On a smaller scale, the three repeated pairs of motives in bars 19-29 – demisemiquaver runs followed by wide tritone gestures – can

[730] Since the B section has more notes overall, this section is larger on the timing graphs.
[731] Todd (1985, 1989, 1992, 1995).

be seen in the three almost identical double phrase arches – the first arch larger, the second smaller – in Figure 14.[732]

Figure 15 shows the mean timing profiles for each decade from the 1950s to the 2000s. At first glance, these are strikingly similar. On closer inspection, however, it becomes apparent that the 1950s pianists are somewhat faster – especially in the first 8 bars and in the B section – and their timing fluctuations smaller. Figure 16 compares only the 1950s and 2000s recordings, excluding Jeanne Manchon-Theïs's 1954 recording from the 1950s data. (Her recording is highly atypical for the 1950s, as we will see.) The timing fluctuations in the 1950s recordings are visibly less exaggerated than in the 2000s recordings, with smaller phrase arches, less pronounced ritardandi at structural boundaries and less tempo contrast between the A sections and B section. The 1950s recordings are also considerably faster in the outer sections, particularly in the opening bars of each section.

In the correlation analysis, the mean correlation of all performances with one another (excluding the average performance) was 0.66, showing that pianists' timing generally shared much in common. [733]The highest correlation in timing patterns between any two recordings was between Manchon-Theïs 1954 and Jean-Rodolphe Kars's 1969 recording (0.91) and the lowest between Manchon-Theïs and Leonard Stein, also from 1954 (0.17). The second and third lowest correlations were also between Manchon-Theïs and other pianists, namely Evgeni Koroliov (0.26) and Christoph Eschenbach (0.27). Kars and Stein also correlated badly (0.28). Yuji Takahashi's 1976 recording (0.93) and his sister Aki Takahashi's 1973 recording (0.92) correlated best with the mean. Peter Serkin's 1983 recording and Peter Hill's 1996 recording also correlated very well with the mean (0.90). Eschenbach correlated least well with the mean (0.65). The correlation between Serkin's 1983 and 1994 recordings was 0.75, between Uchida's 2000 and 2009 recordings, it was 0.88, and the mean correlation of Glenn Gould's four recordings with each other was 0.78.

[732] Although performers also tend to accelerate progressively more on each repetition of the motive.
[733] The average was excluded because individual timing profiles tend to correlate better to the theoretical average performance than to each other, which would have produced a artificially high average correlation figure.

5.4. Discussion

The mean timing profile showed that performers' timing bears a strong resemblance to both large-scale grouping structure and small-scale phrase structure and that similarities and differences between musical passages were reflected in timing. Indeed, the commonalities between the average profiles from different decades were more striking than the differences – also indicated by the fact that the timing patterns correlated fairly well with each other on average. These commonalities seem to represent the components of pianists' timing patterns that arise out of shared expressive responses to the structure of the movement. The decade-by-decade analysis did suggest style plays a role, showing both slower tempi and more timing variation in recordings made after the 1950s, which agrees with the trend towards slower, more rubato performances of Webern's music described in Chapters 2 and 3.[734] The linear regression between average tempo and year of performance, however, did not show a significant relationship, although this could be a result of the limited number of data points[735] or a result of the relationship actually being non-linear: only the 1950s recordings appear noticeably faster than the mean profile in Figure 15, while 1960s recordings are very close to the mean. Indeed, we saw in Chapter 3 that the most radical slowing in tempo seemed to happen during the 1960s. It is interesting that only Douglas, Uchida and Gould (twice) exceeded Webern's suggested metronome mark of dotted quaver = ca 40. As in the case of Op. 31/6 discussed in Chapter 2, Webern wrote a faster tempo on the score than most performers have adopted. His use of the time signature of 3/16 is also unusual: such short note values imply a rapid tempo. Moreover, the fact that the metronome mark is related to the dotted quaver, not the semiquaver, suggests the longer note value – corresponding to the length of a whole bar – should be heard as the dominant pulse. On the other hand, the 3/16 time signature can be read expressively, as implying lightness and delicacy of touch rather than simply speed. The designation of the dotted quaver – the value for the whole bar – as the primary pulse unit might also be

[734] It is important to note that while the flatter appearance of the 1950s graph could indicate more metronomic performance, it may also indicate relatively fewer commonalities between timing patterns in recordings, meaning differences cancel each other out. However, listening to individual 1950s performances, such as Gould's or Stein's from 1954, suggests that the smaller fluctuations in the mean graph do reflect a pervasive tendency during the 1950s to perform note values relatively evenly (Jeanne Manchon-Theïs's 1954 recording is a notable exception).
[735] The duration analysis described in Chapter 3 did find a significant trend towards slower performance for all three movements of the Op. 27 Piano Variations.

seen to signal something about the importance of metre in this movement (discussed below).

The lack of relationship between SD and year of performance, as with the average tempo, is not necessarily conclusive: SD is only a crude measure of rubato, since it does not reflect the magnitude of note-to-note timing fluctuations but only the overall spread of different tempo measurements. However, it is interesting that three out of the five recordings with the highest SD were recordings of live performances: Uchida 2009, Stadlen 1948 and Christian Zacharias's performance, recorded at the 1973 Van Cliburn International Piano Competition. Perhaps this relates to the idea that performers are freer in live performances to employ more exaggerated rubato, as can be heard in the recording of Uchida's 2009 performance [Audio 62].[736]

The good correlations between each of Uchida and Serkin's two recordings and Gould's four recordings point to considerable consistency in pianists' timing patterns across repeat performances. Moreover, the fact that brother and sister Yuji and Aki Takahashi's recordings also correlated very well with each other (0.85), implies that other aspects of shared style were picked up by the correlation analysis. Their similarities can be seen in Figure 17, which shows that not only the placement and extent of their timing fluctuations, but also the absolute tempi they adopt at any given moment, are very similar.[737] These recordings also correlated the best with the mean, as we saw, which might make them the most 'normal' (or least 'original') of the recordings. The least 'normal' (or most 'original') recording was the one that correlated least well with the mean: Christoph Eschenbach's 1996 recording, which was also the slowest and had the lowest SD (these last two facts are statistically related, of course). Figure 18 compares Eschenbach's timing profile to the mean, using both the original timing data [Figure 18a] and the z-scores [18b]. Looking at Figure 18a, we can see that not only is Eschenbach much slower than the average, but unlike most pianists, he performs with very little contrast in tempo between the A and the B sections. While most pianists play the B section faster, with more marked rubato, before slowing down for the A recapitulation, Eschenbach does precisely the opposite, speeding up slightly for the A1 section and using more rubato here (which can be seen clearly in Figure 18b) and even accelerating towards the end of the piece, before the final ritardando. The

[736] This idea is discussed in Blier-Carruthers (2009).
[737] Information about absolute tempo was not picked up by the correlation analysis, which used z-scores rather than absolute tempo data.

expressive effect of this atypical timing is very striking [Audio 63]. While most pianists follow an expressive trajectory that might be broadly characterised as calm (A) – turbulent (B) – calm (A1), the slow tempo and even timing of Eschenbach's middle section give it an over-deliberate, regimented, repressed feel, far from the liberated, expressionistic way Uchida plays it, for example [Audio 62]. In the A1 section, this metronomic façade begins to break down; the short gestures begin to intrude on one another and traces of instability begin to show.[738] It is as though he has waited the whole movement to finally allow himself to be expressive. The result, though very subtle, is very affecting.

The correlation analysis also showed that the highest correlation between two real performances (rather than with the mean) was between Manchon-Theïs 1954 and Kars 1969, which was rather unexpected. In fact, while their original timing data profiles are not very similar [Figure 19a], especially since Manchon-Theïs is far faster than Kars in the middle section, their z-score graphs [Figure 19b] are strikingly close. They share tendencies to a) perform the B section consistently faster than the A and A1; b) play the three repeated pairs of gestures at bars 19-29 progressively faster each time; c) play the demisemiquaver runs within these very quickly but the tritone gestures very slowly and d) play the A and A1 section with relatively little rubato.[739] We saw above that Manchon-Theïs's recording correlated very badly with Stein 1954, Koroliov 2000 and Eschenbach, while Kars also correlated badly with Stein. Clearly, there is something that Manchon-Theïs and Kars do with their timing that Stein, Koroliov and Eschenbach do not. Comparing the z-score profiles for Manchon-Theïs and Kars [Figure 19b] with the others [Figure 20], shows that the differences seem to lie in the extent to which they differentiate between the A and B sections using tempo (Manchon-Theïs and Kars play the B section much faster, Stein, Koroliov and Eschenbach play it about the same tempo on average as A and A1) and to the extent to which their timing fluctuations resemble regular, large-scale phrase arches (Manchon-Theïs's and Kars's do, while the others' are far more irregular and the fluctuations more small-scale).

I mentioned above that Manchon-Theïs's performance was atypical for the 1950s. In fact, she was very much a pianist of the pre-war Viennese tradition, who even

[738] This section is full of expressive nuances in dynamics and articulation not reflected in the timing analysis.
[739] Manchon-Theïs (1902-1971) and Kars (born 1947) were/are both resident in Paris. I am unaware of any direct connection between them, but it remains a possibility.

studied Op. 27 with Webern, and went on to perform much Second Viennese School repertory after the war, working with Leibowitz and Max Deutsch. The sleeve to the disc containing her recording of the Webern Variations (which also contains Berg's Piano Sonata and Schoenberg's Op. 23 pieces) states that she 'gives us an authoritative interpretation approved by the composers themselves'.[740] According to Peter Stadlen's nephew Anthony:

> Peter said how moved he had been when he heard Jeanne Manchon play the Variations. He immediately knew, he said, that she must have studied them with the composer. And he played the beginning of her version. As he said, "full of meaning and pensive poetry".[741]

It is interesting to compare the two performances by Webern pupils – Stadlen [Audio 16] and Manchon-Theïs [Audio 64]. Their approaches are quite similar: both are very expressive, with very wide fluctuations in tempo and lots of sustaining pedal. However, the correlation between their timing profiles is only 0.68 – barely better than the average. Looking at their timing graphs [Figure 21a] and z-score timing graphs [Figure 21b], one can see that there are significant differences between their approaches, especially in the second part of the B section, from bars 30-37. While Stadlen, like Manchon-Theïs, reaches very high maximum tempi in this section (a pre-war stylistic trait, as discussed in Chapter 1), she plays the passage more uniformly fast, while he differentiates more using timing. In particular, he markedly slows down for the staccato figures at the palindromic centres in bars 31 and 33, whereas she does not. In Stadlen's performance score, these bars are marked 'linke Hand wie eine geheimnisvolle Pauke' [left hand like a mysterious drum] – a quotation from Webern – and 'scharf abgesetzt gegen das Vor- und Nachherige' [sharply contrasted with the preceding and following material]. Stadlen would appear to be following Webern's instructions, then, and differentiating these quiet, mysterious motivic figures from the turmoil of the surrounding passages. While Manchon-Theïs's timing is very variable, then, her use of rubato is nonetheless slightly more regular than Stadlen's and tends to articulate larger structural units, while Stadlen's is highly unpredictable at a small-scale level: his performance is full of what Robert Fink calls the 'mercurial shifts' of 'expressive rubato'.[742]

[740] Sleeve notes to Telefunken MEL 94008.
[741] Personal communication, 2010.
[742] Fink (1999), 310. Previously quoted in Chapter 1.

This is especially noticeable in the A section (bars 1-18), where Stadlen's 'mercurial shifts' can be contrasted with the far more regular, more symmetrical phrase arches of Steffen Schleiermacher's 2002 recording. This is audible in their recordings [Audio 16 and 65] and also visible in their timing profiles [Figure 22]. While Schleiermacher's timing is strongly tied to the notated palindromic phrases, Stadlen's timing patterns bear little resemblance to them: compare their graphs in bars 11-15, for example. This seems to be what Stadlen meant by 'contradicting the structure' and 'misleading the listener' – his 'irrational' rubato does not simply 'express' the phrase structure, but adds a layer of complexity to it. His wide, rapid tempo fluctuations cut across the notated phrases and the palindromes, bearing little resemblance to either. This can be seen as a hallmark of his pre-war style: as we saw in Chapter 1, one of the main trends in twentieth century performance style was a move from the volatile patterns of local rubato to the more stable and predictable patterns of large-scale phrase arching. According to Nicholas Cook, phrase arching was widely adopted by 1950s performers as a more 'objective' kind of performance rubato corresponding more closely to musical structure:

> Instead of being the expression of an artistic personality, it could now be seen as drawn directly from the musical structure, in this sense an expression of the music itself. It was objective, *sachlich*, and so in tune with the prevailing ideology of post-war performance.[743]

5.5. The first 18 bars

So far, we have only discussed timing patterns on a rather large-scale, general level. I shall now consider the effect of pianists' timing in individual performances in a more detailed way, looking at the first 18-bar section only. This section is – on the notated page at least – rhythmically very uniform, more expressively subtle and less strongly characterised gesturally than the middle section. It is made of four prime-retrograde row pairs arranged into palindromic phrases of unequal length – from bars 1-7 (7 bars), 8-10 (3 bars), 11-15 (4 bars) and 15-18 (3 bars). The first and third phrases are based on one prime-retrograde transposition (P8 and R8) and the second and fourth on another (I10 and RI10). A single semiquaver rest occurs between each phrase. The first and fourth phrases are further divided by rests into smaller sub-phrases or gestures: the first into

[743] Cook (2009), 24.

four sub-phrases and the fourth into two. The dynamic markings, texture and registral positioning of the pitches in the score suggests a rather conventional expressive contour: the first phrase is halting, uncertain, thinly-textured and irregular while the second is more energetic and compressed (the rows are here combined into three note chords as well as the single notes and dyads of the first phrase). The third is the most energetic and extended: Webern manipulates the third P-R pair so it is not symmetrical, meaning the registral peak of the section occurs in bar 11, on the top B, which is marked forte, and the phrase descends to the low G in bar 14, as mentioned above. The first four-note chord occurs on the third beat of bar 11,[744] very close to the golden ratio of these 18 bars. The fourth phrase is the least energetic and is followed by a little 'coda' gesture in bars 17-18, separated from it by a rest. Thus texture, register, dynamics and even row forms largely reinforce each other in creating a classic A-B-A1-B1 phrase structure, with the high point of tension reached on the third phrase of the four. These aspects of structure seem to recall the traditional rhetorical functions of earlier, tonal music.[745]

The relationship between other aspects of structure, however, is more complex. The irregular phrase lengths do not correspond directly to the regular 3/16 metre; thus, an irregular surface is overlaid on a very regular metrical grid. Moreover, the three- and four-note chords often fall on weak beats while the single notes or rests fall on strong beats. The movement begins, as so many of Webern's do, with a downbeat rest, then the pianist enters on the second, weak beat of the bar. The second phrase begins on the first beat of the bar, but the third starts on the second beat, which can easily sound like a downbeat. The disjunction between the metre and the accentual structure created by the texture is highest in the third phrase (bars 11-15). Here, triple metre is implied, but compared with the notated metre it can easily be heard as one beat 'late'. The 'real' metrical structure is restored in the last phrase, through the use of conventional upbeat grace note/downbeat chord textures in the 'correct' metrical positions (on bar 15 beat 3-16/1 and 17/3-18/1). With the benefit of a score, this can be seen as a kind of metrical 'game', in which the phrases 'get behind', then catch up with the metre.[746] By this point, though, it is easy for the listener without a score to have lost all sense of where the metrical downbeats fall. As so often in Webern, the metre functions as a rather abstract, often inaudible structural force not always easy to extrapolate from the sounding surface

[744] On the 33rd of the 54 semiquaver beats.
[745] Bailey (1991) describes this movement as a sonata form.
[746] I am grateful to Christopher Wintle for inspiring this interpretation of the metrical structure of bars 1-18.

of the music.[747] This is compounded by the ambiguous status of the rests – are they to be heard as adhering to the previous or to the following phrase or sub-phrase? There is an abundance of syncopation between different structural 'layers', then: phrase structure, metrical structure and texture do not match up. To compound the complexities, the accents in the performance score – marked with either tenuto signs or double hairpins (<>) – also cut across the texture and phrases, sometimes reinforcing the 'hidden' metrical structure (bar 2 beat 1, bar 7 beat 1), sometimes cutting across it (2/2, 3/3).[748] It is almost as though Webern wanted everything to be accented, everything to be significant. We might recall Webern's comments to Scherchen – 'nothing must be allowed to take second place […] everything is of primary importance'.[749]

I would now like to focus on Krystian Zimerman's 1995 recording of this 18-bar section, which I believe negotiates the conflict between the accentual layers using timing (as well as dynamics and articulation) to powerful expressive effect [Audio 66 and Figure 23]. Zimerman's use of rubato is very complex, but much of it can be accounted for by two principles: namely phrase arching and the use of agogic accents to emphasise notes or chords of particular importance. In the first phrase, he differentiates strongly between the sub-phrases, separating the three- and four-note 'micro-gestures' within the first phrase (separated by rests), into individual structural entities, with long pauses on the rests between them. Zimerman plays the first two notes very quickly but slows markedly for the first downbeat on the G-F# dyad on 2/1 (also accented in the performance score with a double hairpin). He employs the same rhythmic strategy in the second sub-phrase, but this time shaped around the G#, the downbeat of bar 4 (though the C-D dyad in 3/3, marked in the performance score with a double hairpin accent, is dynamically accentuated). This reflects the accentual ambiguity suggested in the performance score between 3/3 and 4/1.[750] The way Zimerman shapes his timing around these conflicting strong beats results in 'upside down' phrase arches on the timing graph. On the first beat of bar 6, he pauses, then on the second beat begins to accelerate in an arch-shaped phrase that lasts until the end of the second phrase at 10/3. This means that, rather than performing the gesture at 6-7 as the end of the first phrase (as

[747] This was discussed in Chapter 3.
[748] Indeed, the accents on 3/1 and 3/3 seem to briefly imply duple metre in bars 3-4.
[749] Letter of 1 Jan 1938. Quoted in Eimert and Stockhausen (1959, eds), 19. [1955 German edition, 26.] Previously quoted in Chapter 1.
[750] Indeed, I strongly suspect Zimerman consulted the performance score before recording this work, although he does not follow every aspect of it rigorously.

the performance score implies it should be, since it is marked 'Echo'), Zimerman performs it as the introduction to the second, 'neu belebt' phrase at bars 8-10.[751] By eliding the end of one phrase with the beginning of another, Zimerman overrides the palindromic symmetry in favour of bringing out the music's dynamic character, running into the next phrase with increasing momentum. He characterises bars 6-7 as transitional: their function is to build up tension in preparation for the new, more concentrated, more energetic phrase at bars 8-10. Zimerman's performance of the phrase at bars 11-15 can be seen as a large pyramid-shaped contour on the timing graph, peaking in bar 12 and coming to a rest at 15/1. His timing here seems to irresistibly suggest the motional contour of something tipping over a threshold then beginning to roll down a slope before coming gradually to a halt: the registral descent from the top B is heightened by being expressed as an implied motional descent and the use of a more conventional phrase arch – as opposed to the inverted phrase arches of the first five bars – seems to release a lot of rhythmic tension that has been built up in Zimerman's performance in the first 10 bars.[752] The point where the phrase arch ends – bar 15 beat 1 – is actually a metrical downbeat and Zimerman lingers over it for a little longer than he needs to, to communicate its significance. He does the same with the downbeat C# on bar 17 beat 1. The other downbeats – on 16/1, and 18/1 – are given dynamic accents. Zimerman's performance is particularly focused on communicating metrical structure through agogic (and dynamic) accents, then, but also makes use of quite pronounced phrase arches, although these do not always correspond to the phrase structure: sometimes he plays 'with' the phrase structure and sometimes 'against' it. His complex performance represents one way of responding creatively to the structural complexity of the work, whose multiple layers 'sometimes clarify, sometimes counterpoint' each other, in Cone's phrase.[753]

One of the striking features of Zimerman's sensitive performance is the way his subtle differentiation – using shadings of timing, dynamics and articulation – picks out particular melodic pitches, allowing them to persist in aural memory for longer than others. That Webern intended the movement to be heard this way is implied in the performance score by the circled melody notes and also by the use of lines or arrows to

[751] It is not a smooth phrase arch, however: the chord on bar 9 beat 1 intrudes suddenly.
[752] One can also hear him 'leading in' to this phrase by breathing in quite loudly on the missing downbeat at 11/1. Along with his humming, this communicates a sense of bodily gesture despite the lack of any visual information.
[753] Cone (1974), 138. Quoted more fully in 5.1. above.

connect particular pitches in different clefs, to be communicated as melodically joined. In the introduction to the performance score, Stadlen called these lines 'anti-pointillist manifestos'.[754] Indeed, throughout the movement, the way the pitches are deployed registrally creates potential voice-leading patterns, and even pitches that can be heard as temporarily prolonged. In the opening section, the pitch class C# recurs several times in the same register (in bars 2, 6, 9, 14, 16 and 17) and, in the performance score, is always circled as one of the melody notes.[755] Moreover, the row forms are carefully chosen to form pitch overlaps, suggesting linear connections with immediately preceding material. For example, the last four notes of the B section in bar 36 appear again, in reverse order but at the same octave level, at the beginning of the reprise in 37-38, both providing an additional axis of symmetry between different row forms and ensuring an element of continuity between ostensibly contrasting material. The possibility of a lyrical interpretation is thus latent in the score (although disguised, to a certain extent, by the notational practice of dividing melody lines between staves and clefs – a feature the lines were presumably supposed to correct for).

Nicola Dibben's 1999 study of the perceptibility of serial structures used a musical passage from Webern's First Cantata and suggested listeners can form hierarchical representations of serial pitch structures, but that they are largely dependent on rhythm and metre.[756] Indeed, other research suggests that features of the musical 'surface' – such as dynamics, register, texture and timing – may have more of an effect on which pitches are perceived as structurally important in atonal and serial music than they do in tonal music, which is easier to understand hierarchically without the help of such features.[757] Fred Lerdahl's 1989 study, for example, suggests that surface 'salience' can easily become equated with structural importance. If this is the case, then it would seem to imply performers' interpretations of atonal and serial works can have structural implications for the listener.

Basic aspects of performance style can certainly affect the extent to which one hears a serial work harmonically. Richard Franko Goldman wrote in 1960 that 'the denial of harmony as an element of construction […] is basic in the post-Webern

[754] Stadlen (1979).
[755] The pitch class C# then recurs as the top note of the final chord in bar 54 and its enharmonic equivalent, D flat, is the highest pitch of the movement, occurring at the climax in bars 33-34, although whether it can be heard as 'prolonged' over this period of time is perhaps uncertain.
[756] Dibben (1999).
[757] Bruner (1984); Lerdahl (1989).

world'.[758] Fittingly, the rapid tempi and even, detached articulation of avant-garde Webern performances, such as Leonard Stein's 1954 recording of Op. 27, on the Craft set [Audio 67], make it difficult to hear any one particular pitch as dominant, because each passes so quickly.[759] More sustained, more legato performances arguably enhance the linkages between repeated notes within the 12-note series, giving them a 'harmonic' feel, as though they were hierarchically privileged. One such performance is Mitsuko Uchida's 2000 recording of Op. 27 [Audio 68]. The harmonic feel of her recording is primarily a matter of her dynamics and articulation (and the reverberant recording acoustic) but timing does contribute to it. Particularly significant is the way she emphasises the three-note chord at 10/2 and the four-note chord at 14/3 using agogic and dynamic accents. This can also be seen in the mean profile for the first 18 bars [Figure 24], showing it is a strategy shared by many pianists. Here, the slowest points are reached not at the phrase boundaries – the rests at 11/1 and 15/2 – but rather the penultimate chords of each phrase. Perhaps pianists are responding expressively to the texture, which seems to imply tonal harmony. While the chords at 10/2 and 14/3 occur in metrically weak positions, it is difficult not to hear them as accented, simply because of their texture and the fact that they appear at the end of phrases.[760] Arguably, they lend themselves to interpretation as quasi-cadential chords, that is, in terms of the goal-directed, harmonically-driven rhetoric of tonal music – even in the absence of such an organisational system. This is especially the case in bar 14 beat 3, where the low G could be a pedal, a preparation for a cadence that never happens.

5.6. Conclusion

In the first part of this study, we saw that, averaged across many performances, pianists' timing patterns can be easily related to basic features of musical structure such as repetitions of whole sections or motivically similar phrases. The fact that they also bear a strong resemblance to each other across decades suggests that these apparently structural commonalities, on this general level, are more important than the trend towards more rubato performance from the 1950s onwards. The correlation analysis using the z-scores revealed some interesting commonalities and differences between

[758] Goldman, Lowens and Wörner (1960), 263.
[759] We might recall that Stadlen said Webern would have described this as a 'caricature' of his music. Stadlen in Pauli (1984), 280. Previously quoted in Chapter 2.
[760] This is another way in which the texture and the metrical structure counterpoint each other.

pianists' timing patterns – mainly in terms of large-scale, general tempo strategies – that might not otherwise have been noticed using simple timing data (Manchon-Theïs and Kars), as well as some more predictable ones (the Takahashis). Indeed, the correlation analysis was better at picking out large-scale similarities and differences between recordings than small-scale fluctuations.

In the second part, we saw how small-scale timing fluctuations in recordings can have a very meaningful expressive effect: how performers can use rubato to articulate grouping structures (Schleiermacher) as well as to contradict them partially (Zimerman) or almost completely (Stadlen). Indeed, Stadlen's recording provides us with a vivid aural impression of what it might mean to play 'against' phrase structure, to try to 'destroy' it. Zimerman's recording showed how one can create new structures in performances through timing, or rather rhetorical shapes. The first movement of Op. 27 can be conceptualised in terms of many different types of structure – phrase, serial, metrical, melodic, gestural, and so on – operating simultaneously, and many levels of potential meaning that do not always relate directly to one another. Despite its tight construction, the movement presents the performer with a wide array of possibilities; the performer must choose between portraying one or another aspect of structure through expressive timing. There is a sense in which all musical performance is about this, however. Joel Lester writes that:

> If pieces are regarded as composites of seemingly innumerable acceptable interpretative possibilities, the focus of analysis could shift from finding 'the' structure of a piece to defining multiple strategies for interpreting pieces.[761]

As Nicholas Cook points out, there is a danger of eliminating the musician as an individual by treating 'expression' as only 'an epiphenomenon of structure'.[762] That is, there is a danger of treating performers as though all they do is express musical structure, and nothing else. Instead, Cook writes, there is a degree of reciprocity or feedback between musical structure and performance expression: 'Musical structure is performatively constituted by the very "expressions" that are said to be its result'.[763]

[761] Lester (1995), 214.
[762] Cook (1999), 242.
[763] Ibid., 243.

Chapter 6

Recordings of the Trakl songs, Op. 14

6.1. Webern's (un)vocal writing

Webern's Six Songs on Poems by Georg Trakl, Op. 14 [Example 21] were written between 1917 and 1921 and selected from a large number of Trakl settings, some complete and others fragmentary.[764] The songs were written during Webern's so-called 'middle period' from 1914 to 1926, when he was occupied almost exclusively with vocal settings, many of which became Opp. 12 to 19. These 'middle period' songs, unlike the earlier Expressionist and later serial works, have been relatively neglected by performers, audiences and – at least before Anne Shreffler's groundbreaking book-length study of Op. 14 – musicologists too. As Shreffler writes, these 'atypical' pieces, which do not fit with the prevailing images of Webern as either post-Romantic miniaturist or cerebral avant-garde master, 'have simply been bracketed out of the Webern canon',[765] while Julian Johnson describes the middle period vocal works as 'the least performed, the least known, and the least popular of Webern's works'.[766] The relative obscurity of the Op. 14 songs is reflected in the small number of existing recordings. I shall consider just six, made between 1954 and 2008 [Table 12].

Since the number of available recordings of the songs is severely limited and one cannot speak of a stylistic 'tradition' for such an underperformed work, I shall not comment on historical trends in performance style. Rather, I shall discuss the recordings as individual performances and relate them to critical responses to the Op. 14 Trakl songs and to Webern's other middle-period vocal works. In this, I shall build principally on the analytical and interpretative work of Anne Shreffler.[767] The Trakl songs are scored for voice plus a changing instrumental ensemble comprising violin, cello, clarinet and bass clarinet, although I shall focus my discussion almost exclusively on the vocal part. It will be seen that several of the aesthetic issues most pertinent to Webern's music are played out in the issues faced by the singer in these songs, and that the different practical solutions found by performers can also be conceptualized in critical terms. Doing so helps to illuminate configurations between sound and meaning that can be understood as particularly modernist.

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[764] Example 21 contains the complete score of all six songs. When the reader is invited to refer to the score, only the song name and bar numbers will be given. See Appendix D for the complete Trakl texts and English translations. A comprehensive list of Webern's Trakl settings can be found in Shreffler (1994b), 15-16.
[765] Shreffler (1994b), 4.
[766] Johnson (1997), 66.
[767] See Shreffler (1992, 1994a, 1994b).

One of the main reasons for the relative neglect of Webern's middle-period vocal works by performers is the difficulty of the vocal writing, which is some of the most challenging in the Lied repertory. Webern's atonal melody lines are spread across several octaves and peppered with fearsome leaps; only a singer with a phenomenal sense of relative, if not absolute, pitch, could get them completely correct and in tune.[768] His scores are, as always, densely packed with numerous tempo changes and expression marks and the standard plethora of hairpins. There are sudden and extreme dynamic changes – often within a single note – and occasional requests for extreme feats that go against the natural grain of the voice. In the first of the Op. 14 songs, 'Die Sonne', a top B (bar 5) is approached by an upward leap of a minor ninth and marked *ppp*; it forms the climax of a sung phrase spanning over two octaves. In the fifth song, 'Nachts', the word 'Augen' (bar 3) is set to a falling interval of an octave plus a tritone. According to the soprano Tony Arnold, whose recordings of Opp. 8 and 13-15 appear on Craft's most recent Webern set:[769]

> Even in a singer with superior aural skills, the technical demands of these songs are so great that often pitch and timbre can suffer as a result. […] Clearly there are many singers who can do these pieces well, and I think there are more and more of them nowadays. But the numbers are still few, relative to the singing population as a whole.[770]

Anne Shreffler, however, writes that, 'intrinsic to the force of Webern's extreme gestures in the voice is the fact that they are vocal; the palpable sense of difficulty and effort is essential to their effect'.[771] But it is important to note that the performer can channel that sense of difficulty and effort into sound in various ways, producing a range of different effects. The registral dispersion of Webern's vocal parts could encourage a staccato, 'pointillist' style of delivery, especially if singers are intent on getting the notes completely correct. However, as with the Op. 27 Piano Variations, we know, of course, that Webern wanted the exact opposite: lyrical melody lines 'shaped' using dynamics and rubato. In a 1919 letter to Erwin Schulhoff, he writes of the Op. 3 George songs:

> The songs have metronome marks. I think they are good. But please: within these specifications one can and must have musical freedom. Let the melodic

[768] Many of the singers who have recorded Webern vocal repertory, such as Ilona Steingruber and Marni Nixon, have indeed had absolute pitch.
[769] Naxos 8.557531.
[770] Personal interview, 2010.
[771] Shreffler (1994b), 223.

> phrases live fully: but again pay attention to the line. Every song until the end should be sung very flowingly […]. In Vienna *Frl. Mihacsek* from the opera sang the songs; really superb. She didn't hit the notes carefully and painstakingly […] rather [she] truly *shaped* [them].[772]

Webern's instructions to 'pay attention to the line' and sing 'very flowingly' are relatively straightforward to follow in the early George songs, but far more difficult in the later Trakl songs. As Adorno wrote in 1959, the widely spaced melodic lines in the middle-period songs can easily fragment, while the singer's heroic efforts to wrestle with the material can produce an effect dangerously near to hysteria:

> The numerous vocal compositions of this time[773] […] now often sound particularly brittle because of the frequent piling on of large intervals in the vocal lines. Not only is it very difficult for the ear to synthesize the disparate notes into a melody, but the priority given to achieving the right note constantly threatens to make the result sound shrill and compulsively over-anxious. This disrupts our consciousness of character and meaning. The true revelation of these pieces is a function of the way they are performed: only when they are performed without anxiety and bravura will their substance be properly revealed.[774]

In a similar vein, Johnson writes of the Five Canons, Op. 16:

> The "unvocal" nature of the vocal writing in these pieces, which brings to a head a tendency evident in opp. 14 and 15, is apt to make the voice sound strident and hard, yet one assumes that Webern envisaged something quite different often at the very moments when this is most exaggerated. […] In his treatment of tessitura, just as in his attitude toward rapid changes of register in broad sweeps, often over two octaves, Webern may well be accused of "mishearing" the aural result, of idealizing a soprano sound that remains unlikely to be realized.[775]

Both writers consider that the vocal lines in the middle-period songs can end up sounding shrill, hard, or anxious in performance, but that Webern did not intend these effects at all. Adorno, who considered the Trakl songs one of the pinnacles of the composer's achievement,[776] apparently blames performers for this: 'only when' the songs are performed correctly will their true 'substance' become apparent. Johnson, by suggesting that 'Webern envisaged something quite different', implies a gap between real and imagined sound. According to Erwin Stein, Webern's use of wide intervals and

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[772] Letter from Webern to Erwin Schulhoff, 19 August 1919, in Vojtech (1965), 80. Translation quoted from Shreffler (1994b), 82. Emphasis original. The singer was Felicia Hüni-Mihacsek of the Wiener Staatsoper.
[773] Meaning Opp. 12-19, but principally Op. 15 onwards.
[774] Adorno (1999), 100.
[775] Johnson (1997), 88-89.
[776] Adorno (1999), 99 and 102

the extremities of the vocal range should be understood in terms of the 'exalted expression' of an intense state of quasi-religious ecstasy: the compositions 'should be understood as musical visions'.[777] This relates to the fact that nearly all Webern's solo vocal writing is for female voice, normally a high female voice.[778] He seems to have held to a conception of 'the angelic', which he associated with very high soprano registers. The consistent setting of the word 'Himmel' to high notes in Op. 14 no. 1 and Op. 15 nos. 1-3 becomes almost a Webern leitmotif.[779] In the first of the Five Latin Canons, Op. 16, the setting of the first syllable of 'super' (of 'super omne nomen') to a high B approached and departed by large leaps is another example of Webern's rather literalistic religiosity: Christ's name is here undoubtedly 'above' all. But such high notes have to be treated carefully: sonically, there can be precious little to distinguish them from screaming. As the recorded examples of Op. 16 no. 1 discussed in Chapter 2 [Audio 23 and 24] make apparent, the boundary between ecstatic joy and outright aggression can be perilously narrow, due to the similarity of their acoustic hallmarks (discussed in Chapter 3). The danger of misinterpretation at the level of basic emotions arguably exists in Webern simply because of the music's atonality, which tends to be interpreted negatively by listeners. Again, this danger is particularly acute in recordings, where the performer cannot use physical cues to disambiguate between joy and anger. According to Tony Arnold:

> In live performance you have the advantage of physical presence. Through the use of physical gesture, facial expression, and myriad other subtle physical/psychological cues, there is an opportunity to express an entire world of meaning not available by this means on audio recording.[780]

Johnson writes that the expressive extremity of the middle-period songs tends to distort or 'disfigure' the voice, and its attempts to exceed itself transform the formerly beautiful into something ugly:

> Every work from 1914 to 1926, a critical period for Webern's move to abstraction, includes the voice. The voice, as a sign of corporeality in music, is subjected to an abstraction that seems to disfigure it. In a heightening of subjective lyricism the voice has to go beyond its own reach, to transcend its

[777] Stein (1953), 100. Quoted in Wintle (1996), 231.
[778] The exceptions are the first two movements of the Op. 31 Cantata, 'Schweigt auch die Welt' and 'Sehr tiefverhalten', which are for solo bass. Some songs can be sung by a male voice an octave lower.
[779] The phrase containing the high C in Op. 14 no. 1 ('unter dem runden Himmel…') is revealingly marked 'extatisch' [ecstatic] in the sketch. Shreffler (1994b), 72.
[780] Personal interview, 2010.

> own human limits. Thus Webern cultivated registral limits in the same way that he cultivated the limit between sound and silence, because the point of interest is the interface, the narrow border where one intersects with another. The voice is "beautiful" in these songs as the vehicle of a lyrical subjectivity, but it is disfigured by the extremity of that lyricism. Heightened to such a degree, lyricism turns into a denial of the corporeal limits of the voice, and in its intense, painful desire for transcendence, it is disfigured through asceticism.[781]

This refusal to tether the angelic vision to the natural limits of the singing voice can be linked to Webern's strong idealistic streak. An anecdote from the pianist Eduard Steuermann shows that the composer's attitude to singers' abilities may sometimes have been over-optimistic: 'I expressed a doubt to Webern once about the possibility of singing some melodic patterns. He said "Don't worry; we feel and write, they will find a way".'[782] On the other hand, in the notes to his 1957 complete works, Craft, discussing the Op. 16 Canons, dismisses the notion that Webern's music is 'unvocal', commenting: 'none of our singers has ever said the same […]. Let us not confound our musical difficulties with the perfect craftsmanship and conception of the composer.'[783] Johnson makes the interesting suggestion that the composer may, in fact, have had a specific, real voice in mind when writing the Op. 16 Canons, and perhaps other works too, citing his 'long-standing and fruitful relationship with the soprano Ruzena Herlinger'.[784] Herlinger (1890-1978) was active in Vienna before the Second World War and worked closely with Schoenberg, Webern, and Berg, who dedicated his concert aria *Der Wein* to her.[785] Recordings of her performing Webern songs from the Opp. 3, 4 and 12 cycles were broadcast by the BBC in 1928 and 1934.[786] Herlinger seems to have had a highly flexible voice with an unusually large range, especially at the upper end, and Johnson suggests these qualities may have inspired Webern to write for the voice in a particular way that was (and still is) technically very challenging for the majority of singers.[787]

Webern may not have been entirely convinced by Herlinger's vocal talents, though. In a 1929 letter to Edward Clark, he describes the idea of her performing his

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[781] Johnson (1997), 89.
[782] Steuermann (1989), 83, quoted in Elliott (2006), 229-30.
[783] Craft (1957b), 10.
[784] Johnson (1997), 89, n. 20.
[785] A 78 recording exists of her singing *Der Wein* with the Königsberg Radio Orchestra, conducted by Hermann Scherchen, in 1930. RRG (Germany), EA 903/7.
[786] See Doctor (1999), 308 n.102 and n. 359; 345. According a letter from Webern to Hildegard Jone and Josef Humplik of 17 December 1938, the Trakl Songs were also performed in England that year, although he does not mention who the singer was. Letter in Polnauer (1967), 37.
[787] Personal correspondence.

Op. 13 songs as 'risky', especially with the small number of rehearsals suggested.[788] Similarly, in another 1929 letter he responds to Josef Humplik's suggestion of a performance of the Op. 14 songs thus:

> [T]here is hardly the remotest possibility of a realization: I know of no singer, and even if I did know of one there is no longer sufficient time. My Trakl Songs must be about the most difficult thing there is in that line. Innumerable rehearsals would be necessary. […] A thing like a performance of a work of mine requires the fulfilment of a host of conditions, and in this case they simply do not exist.[789]

Fully aware of the songs' difficulty and unwilling to compromise on quality, Webern summarily dismisses suggestions of a future performance. Nonetheless, the Trakl songs had already been performed by 1929, with success. They were premiered on 19 July 1924 at the Donaueschingen festival, with Clara Kwartin as the soprano soloist, accompanied by an instrumental ensemble led by Rudolf Kolisch and conducted by Webern himself.[790] Webern, writing to Berg on 23 July of that year, seemed genuinely happy with the result:

> The songs went excellently. Miss Kwartin performed brilliantly. She sang really beautifully, faultless in intonation, very convincingly, and had a very great success.[791]

Where the 'host of conditions' (chiefly sufficient rehearsal time) was fulfilled, performances of the works could indeed meet their composer's exacting standards.

Webern's attitude to singing and singers reveals a familiar mixture of idealistic and realistic tendencies. His lyrical performance ideal, focused on communicating the linear aspects of melody, was not impossible for contemporary vocal performers to realize, and nor is it today. Yet maintaining a sense of melodic continuity across jagged, fragmented patterns of pitches remains a very difficult feat. The remainder of this chapter will discuss the different ways in which the idea of 'lyrical' performance has been interpreted by singers in six commercial recordings of the Op. 14 Trakl songs. First, I shall look at their use of expressive portamento and portamento-legato before embarking on a wider discussion of the lyrical nature of the songs, considering aspects

[788] Letter dated 8 July 1929, quoted in Doctor (1999), 170-71. Previously quoted in Chapter 1.
[789] Letter dated 30 Dec 1929, in Polnauer (1967), 13.
[790] See Moldenhauer (1978), 193 and 269. Clara (or Klara) Kwartin(-Friedmann) was a coloratura soprano about which little is now known. According to Grassl and Kapp (2002, eds), she was born in 1900, possibly in Prague, and emigrated to New York (p. 591).
[791] Quoted in Moldenhauer (1978), 260.

of their music and texts as well as performers' interpretations of them. I shall argue that the songs present a fragmented, modernist construction of subjectivity and that performers' responses to this throw fascinating light on a number of issues to do with how meaning is created and communicated in this most complex of musical repertories.

6.2. Portamento in recordings of the Trakl songs

6.2.1. The Op. 14 vocal score

In 1923, Webern made a reduced version of the Op. 14 Trakl songs, for voice and piano only, to use in rehearsals for the first performance with Clara Kwartin. He may have intended this vocal score for future publication, and in November 1938 gave it to Hugo Winter, the director of Universal Edition in Vienna, who was then forced into exile. In 1958, it entered the Moldenhauer Archives via Winter's son, spent some years in the Library of Congress, and was finally published by Universal Edition in 1999.[792]

The vocal score contains a small number of expression marks not in the full instrumental score: a few dynamic markings, *tenuto* marks, *ritardandi* and, most interestingly, the diagonal lines indicating pitch slides in 'Die Sonne', 'Abendland I', 'Nachts' and 'Gesang einer gefangenen Amsel'. Like the straight lines connecting the pitches in the Op. 27 performance score, these might also be regarded, in Stadlen's phrase, as 'anti-pointillist manifestos'.[793] Most of the slides can also be easily related to textual images in the Trakl poems: in 'Abendland I', at the line 'Und es fallen der Blüten' [and many flowers fall], the movement of the falling flowers is illustrated by descending slides and in 'Die Sonne', the sliding between the closely chromatic notes in bar 9 seems to imitate the gliding movement of the line 'Rötlich steigt im grünen Weiher der Fisch' [redly the fish glides upwards]. The pitch slides at bar 7 of 'Gesang', between 'gold' and 'nen' of 'den goldnen Schritt' may be connected to the kinetic associations of the words '[his] golden step'. Webern also writes in slides across the largest vocal leap in the song cycle (the falling interval on 'Augen' in 'Nachts', bar 3) and between the final two notes of 'Gesang', the final song. The slides on 'läuten' in

[792] UE 30267. See Moldenhauer (1978), 269 and Meyer (1999) for descriptions of the history of the score. It was first performed in Seattle on 26 May 1962, as part of the first International Webern Festival, by Grace-Lynne Martin (soprano) and Leonard Stein (piano).
[793] Stadlen (1979).

'Abendland I' (bar 15) emphasize the musical and phonetic connections between 'läuten' and 'Blüten' at bar 5, both set to a falling major seventh figure. The pitch slides appear to serve a variety of expressive purposes from text painting, to heightening dramatic or climactic moments, to highlighting latent poetic and musical relationships.

They also provide yet more evidence that Webern's conception of an 'appropriate' performance style for his works was quite different to that subsequently adopted for them from the 1950s onwards. The decline of portamento in classical singing after the Second World War has been widely documented.[794] As Felix Meyer writes, the vocal portamenti in Op. 14 'bear witness to a style of singing no longer in use today but widely prevalent at the time'.[795] The Op. 14 vocal score, like Webern's recordings, shows he considered portamento to be a legitimate performance technique. Berg, too, notated slides in his scores, such as that of the Op. 3 String Quartet. Although Schoenberg disliked excess portamento and, in 1940, criticised its 'almost incessant use' as 'sentimental', he did find portamento-legato 'admissible for purposes of lyrical expression', praising Casals' restrained use of portamento 'to lend a lyrical dolce passage the tender colouring that expresses the mood of such a passage all the more piercingly'.[796] Shreffler suggests that the fact Webern notated the portamenti at all shows that they were 'restricted to specific situations',[797] although one could also argue that the vocal score was a rehearsal document written for use in 1924 – a time when ample portamento was a stylistic norm. Therefore, Webern might only have written in pitch slides in specific places where Clara Kwartin did not already do them. There are no notated vocal portamenti at all in the full instrumental score, but this, of course, is no evidence that Webern did not want them.[798] Robert Philip's comments on the slides in Berg's Op. 3 could apply equally well to Webern's Op. 14 vocal score. According to Philip, it is unclear:

> [W]hether, by indicating portamentos, Berg intended to increase their overall frequency, or to emphasise them at particular points, or simply to identify the preferred position of portamentos, leaving the choice of others to the performers. It is certainly difficult to imagine the players at the first performance of the quartet in 1911 avoiding portamento elsewhere in Berg's melodic line simply because he specifies it at particular points.[799]

[794] Philip (1992), 2004); Katz (2006); Leech-Wilkinson (2006); Potter (2006).
[795] Meyer (1999).
[796] Schoenberg (1975), 346.
[797] Shreffler (1994b), 82.
[798] There are instrumental portamenti, however. See 6.2.4. below.
[799] Philip (1992), 153.

Regardless of the precise number or placing of slides, Shreffler's conclusion that 'a judicious glissando or two would not be out of keeping with an "authentic" performing style' is hard to disagree with.[800]

I write that the diagonal lines indicate portamenti, while Shreffler terms them glissandi, but the difference between portamento and glissando in practice is, arguably, more a matter of degree than kind. Both involve continuous changes in pitch, although glissandi may be slower and might be thought of as self-contained gestures, while portamenti are heard as slides connecting two separate notes. However, this distinction is inherently open to interpretation: Deborah Kauffman observes that 'portamento is not a single manner of execution, but represents a continuum of practice'.[801] Moreover, Tony Arnold points out that 'the vocal instrument is not fretted or fingered', so asks: 'is there ever a time when singers are actually NOT using portamento to get from note to note (without interruption)?' To an extent, therefore, portamento is a result of 'the technical necessity of unifying the voice's extreme registers'. For Arnold, these 'technical' portamenti are to be distinguished from 'expressive' portamenti. In the following analysis, I shall discuss both types, using the umbrella terms 'portamento' or simply 'slides' to refer to all audible pitch slides, including the various types of half-portamento (such as 'swoops' or 'scoops') or rhythmic portamento (anticipation or dragging) used by singers.[802]

6.2.2. The portamento analysis

An aural survey of portamento in the six recordings of the Op. 14 Trakl songs was conducted and the results are displayed in Table 13. 217 pitch slides were recorded across all performances; all sopranos used at least some portamento.[803] The slides varied in prominence from rapid, very subtle 'swoops' or 'scoops' to slower and more noticeable portamento (though none were really exaggerated enough to qualify as glissandi). The first song, 'Die Sonne', was sung with the most portamenti (55), and 'Nachts', the shortest song, with the fewest (20). Dorothy Dorow used the largest

[800] Shreffler (1994b), 82.
[801] Kauffmann (1992), 158.
[802] For a discussion of the different types of portamento in singing, see Potter (2006).
[803] Figures are, if anything, on the conservative side: the criterion for whether a singer used a portamento was simply whether one could be distinctly heard. No spectrograms were used.

number of pitch slides overall (65) and Françoise Pollet the smallest (15). Descending portamenti (143, or 64%) occurred about twice as often as ascending portamenti (74, or 34%).

The position of every audible pitch slide in the six recordings was noted. Singers often used slides in the same places: of 217 total pitch slides, 92 occurred at locations shared by three or more singers. However, individual style also appeared to affect the placement of slides: Heather Harper, for example, swooped up to long, high notes fairly consistently and tended to execute portamenti on rolled 'r' sounds, while Dorothy Dorow used many more ascending portamenti than the other singers.

Though singers' pitch slides often coincided with each other, they rarely coincided with those in the vocal score: no singer used portamento in 'Die Sonne' in the chromatic passage at bar 9 ('steigt in grünen'), nor between the final climactic notes of 'Gesang' ('brechendes Herz'). No one except Claudia Barainsky, the only singer to use the vocal score, sang the line 'und es fallen der Blüten' in Abendland I (bar 4-5) with any audible portamento.[804] The only point where singers' use of portamento did bear some resemblance to the vocal score was the octave-and-a-half leap down at 'Augen' in 'Nachts', where all six sopranos used a faint slide. This lack of correspondence between the placement of Webern's portamenti and those used in subsequent recorded performances could illustrate that, as suggested above, Webern only notated portamenti in more stylistically unusual places. However, the general decrease in portamento in classical singing between 1924 and the second half of the twentieth century surely must also be a factor here.

6.2.3. Technical portamento

Portamento-legato was often used on difficult leaps, such as the octave-plus-tritone leap at 'Augen' in 'Nachts', or the *ppp* high B approached by a minor ninth leap on the word 'Wald' in 'Die Sonne'. Five singers swooped up to this top note, perhaps to give themselves a certain margin of pitch error: approaching a note from slightly below removes the need to hit the intended pitch completely accurately. There may, then, be

[804] According to the recording sleeve notes, Barainsky and Bauni were the first to record the vocal score, and as far as I am aware they are still the only ones.

occasions when slides ease a singer through a difficult passage. According to Tony Arnold, these types of portamento are generally undesirable but may be unavoidable:

> If a singer finds it absolutely *necessary* to use portamento, then one of two things must be wrong: either the singer has a hole in his/her technique, or the composer has asked for something that is technically unachievable. (It could be that the desired effect is one that does indeed require portamento. But that's something else entirely, and should be reflected in the notation.)[805]

The need to maintain a continuous sound over wide intervals appears to produce some instances of technical portamento-legato, which usually involve very subtle slides. These often appear when there is a voiced consonant in the text, such as 'n', 'm', 'l', or a hard or rolled 'r' sound. Examples include 'grünen-den Hügel', 'blühen-den Dorn' and 'er-hellen die Schläfe'.[806] In fact, as Table 14 shows, 101 portamenti (47%) occurred on the voiced consonant sounds r, n, m, l or combinations of these. The effect of these consonant slides is syntactically important, both linguistically – the slides bind together the syllables within words – and musically, through communicating melodic continuity. As we saw in Chapter 3, portamento-legato smoothes and eases the transitions between notes, heightening the primary perceptual metaphor of melody: that of a single object moving along a melodic 'line'. The word 'portamento' implies this, being derived from the Italian 'portamento di voce' or 'portare la voce' – 'carrying' the voice.[807]

On the other hand, portamenti can also aid enunciation and phrasing by separating notes. Particularly relevant here are the type of ascending portamenti known as either 'swoops' or 'scoops', where, according to Arnold, 'the singer approaches the beginning of a note slightly below the pitch and "eases" into the pitch center, especially on the stressed syllable of a word'.[808] Thus swoops are small, rapid pitch slides up to the start of a note that cover a smaller portion of the interval than normal ascending portamenti. It is also possible to produce a swoop on a falling interval by sliding down to below the second note then swooping up again.[809] Of the 74 ascending slides, 48 (65%) were swoops. Table 15 shows that in these recordings, swoops tended to occur most often on the first (or only) syllable of a word (92% of swoops), on stressed

[805] Personal interview, 2010.
[806] Dashes (-) indicate the placing of slides here.
[807] Potter (2006).
[808] Personal interview, 2010.
[809] For another description of swooping, see Leech-Wilkinson (2006), 236-37.

syllables (85%) or on ascending leaps (85%). They also often appeared on the first beat of the bar (58%), and were approached by leap rather than step (77%). These results suggest that, just as Arnold says, the primary function of swoops is accentual. The words in the Trakl poems most commonly marked with swoops were 'Wald' in bar 5 of 'Die Sonne' and 'Ströme' in bar 10 of 'Abendland III'. They were also used on a few occasions to separate the second of a pair of repeated notes from the first, for example in 'Gesang' between the words 'das Antlitz' and 'den Goldnen'. 'Antlitz', which begins with a vowel and so could easily become blurred into 'das', is separated from it with a swoop by three singers (Martin, Barainsky and Arnold), the swoop functioning here like a glottal stop, as can be heard in Arnold's performance of this line [Audio 69]. Although portamento may sometimes be used by professional vocal performers for technical reasons, syntactical or structural considerations appear to play a more important role. Certain shared tendencies in singers' use of portamenti and swoops can be linked to aspects of song structure such as poetic stresses and musical metre, phrasing and melodic contour.

6.2.4. Expressive portamento

The singer Tony Arnold describes portamento as primarily 'an expressive tool' that should be used 'very sparingly' and always with full, conscious awareness. If used inappropriately, she says, it can be 'gauche' and over-rich, an indulgence rather like chocolate cake: 'ubiquitous and could be eaten at any time, but really can only be appreciated and enjoyed if eaten occasionally!' It should be used particularly sparingly in Webern, she says:

> In general, I deliberately avoid portamento in Webern because I believe it destroys the crystalline web that balances harmony and gesture so elegantly. […] To me, it seems the miniature construction of Webern's songs are somehow deserving of a particular kind of clear and direct treatment: not precious, not puritan, but with reverence and the care afforded something like a Chihuly chandelier or a Calder mobile.

Moreover, the use of portamento should be very specific to the individual context:

> [T]he best use of portamento always springs from and enhances or reinforces the meaning of the moment. […] Context is everything. In general, I'd say a descending portamento has the effect of releasing tension, where the ascending portamento builds tension. Faster and slower have different effects depending on direction… A slow ascending portamento builds extreme tension, where a slow descending portamento often augments the tension in the sigh (languorous).

> Faster ascending portamenti can sound capricious (like a laugh), and fast descending portamenti can show disappointment or deflation.

In general, however, one is more likely to use portamento:

> [W]hen the meaning of the text or dramatic situation invites some sort of gestural reinforcement – as in sighing or longing; the notion of delicacy or lightness; the emergence of great need or desire; release or resolution; sleep or dream states; fear and physical anguish; death; surprise or shock; contentment or satisfaction.[810]

Of course, one cannot draw a clear line between technical and expressive portamenti: pitch slides used primarily for technical reasons may also have an expressive effect on a listener, or a singer may convincingly transform a technical necessity into a rhetorical flourish. Nonetheless, there are many occasions in recordings of these songs where portamenti has obviously been used deliberately for expressive effect. Indeed, the results of the portamento analysis strongly support Arnold's view that pitch slides provide gestural reinforcement. By examining the texts of the passages performed with most overall portamento [Table 16], and of the individual intervals with the most portamento [Table 17], it can be seen that singers use portamento most often where the Trakl poems describe physical movement and strong emotions, or combinations of the two.

For example, the line 'Langsam reift die Traube' [slowly ripens the grape] in 'Die Sonne' (bars 17-18) is performed with pitch slides by all soprano soloists, normally between 'Lang' and 'sam'. The slides exaggerate the gestural qualities of the musical passage and the 'dragging' effect by the rhythmic looseness produced gives the image of slow ripening a vividly immediate realization. Indeed, portamento often includes an aspect of rhythmic rubato alongside the pitch slide, in the form of either anticipation or dragging.[811] Rhythmic portamenti produce an asynchrony between text and melody, either because the melody moves briefly ahead of the textual syllable (anticipation) or lags behind it (dragging). For example, Heather Harper, Dorothy Dorow and Tony Arnold all use rhythmic portamento in subtly different ways on the words 'die schweren Lider' [his heavy eyelids] in 'Die Sonne'. All sing 'Li' of 'Lider' to D flat-E flat instead of the notated E flat, while Harper also slides across the

[810] All quotations from a personal interview, 2010.
[811] The pitch-based and rhythmic aspects of portamento may have arisen together. See Potter (2006).

following interval E flat-C [Audio 70]. Dorow produces marked swoops up to every note in the phrase, especially the first syllable of 'schweren' [heavy], their emphatic effect lending the line additional gravity [Audio 71]. By lingering on and sliding between notes, the sopranos create a blurred, slurred effect that richly conveys the sleepiness and languor of the Wanderer's state. This could be understood in terms of both bodily movement (the heaviness of the lids) and vocal imitation (when in a newly-awakened, sleepy state, people slur their words) and indeed the two are inextricably connected.

Another moment where singers use portamento to communicate movement is the large upward leap in 'Die Sonne' on the word 'Weiher' (bar 10) at the line 'Rötlich steigt im grünen Weiher der Fisch' [redly the fish glides upward in the green pond]. 'Weiher' is sung with portamento by three sopranos, Dorothy Dorow producing a particularly pronounced slide [Audio 72].[812] In 'Gesang', at the words 'umschweben das Antlitz' [suspended around the face], Heather Harper [Audio 73] and, more strongly, Dorothy Dorow [Audio 74] slide both up to and down from the syllable 'ben'. These slides could be thought to trace a circular gesture, following and exaggerating the up-down contour of the melodic line, that reflects the gestural connotations of the verb 'umschweben' [to float or be suspended around]. Shreffler writes that the theme of surrounding or enclosure permeates 'Gesang einer gefangenem Amsel' [Song of a captured blackbird], in its poetic text as well as in the inversional balance and registral symmetry of the musical setting.[813] In this instance, then, the gestural implications of performers' portamenti would seem to mirror, in microcosm, the thematic content of the whole song. The emotive images of 'crumbling walls' and 'dying peoples' at 'an verfallner Mauer' ('Abendland II'), and 'sterbenden Völker' ('Abendland III') are marked with portamento by a number of vocal soloists [Table 16]. These lines, with their connotations of decay and destruction, are set to falling melodic contours and the falling portamenti have the effect of emphasising this kinetic quality, as well as clearly referencing the 'sigh' motif mentioned by Arnold, commonly used to communicate sadness and grief in music. Other, emotionally-loaded words and phrases such as 'heart' (at 'das rote Gold meines Herzens' in 'Nacht'), 'Silbern weint ein Krankes' [silver a sick thing weeps] in 'Abendland I' and 'geweint' [wept] in 'Abendland II' are also often sung with portamento. The implied association between pitch slides and negative

[812] As discussed above, Webern also marks this line with portamenti in the vocal score, though not on the word 'Weiher'.
[813] Shreffler (1994b), 217.

emotions could have an imitative basis: portamento sounds rather like the kinds of vocal sounds people make – weeping, sobbing, wailing – when experiencing them. The use of descending pitch slides to express sadness or grief could also hint at the presence of spatial associations for particular emotions (up = happy, down = sad) that most likely have an embodied basis.

One word is singled out for particular portamento treatment by all the soprano soloists. The word 'leise' occurs five times in the cycle and is set by Webern to a group of related melodic figures, making it both a musical and poetic leitmotif. As Table 18 shows, all singers perform one or more of the incidences of 'leise' with portamento and Dorothy Dorow and Heather Harper slide on all five occasions, transforming it into a performance leitmotif, too. The sliding on 'leise' may be inspired by the opening violin interval in 'Abendland II', which Webern has marked with a diagonal line to indicate a pitch slide. The first notes of the vocal part immediately imitate the violin's falling major seventh here, so performing the vocal interval with portamento as well as the violin interval serves to clarify the musical link between them.

However, the semantic connotations of the German word 'leise' are also important. 'Leise' means quiet or, when used to describe a voice, low, soft or gentle. Shreffler describes the slide on the 'leise' violin figure that opens 'Abendland II' as 'a sentimental downward glissando',[814] which helps to create the nostalgic, 'Neo-Romantic' mood of the song, with its evocation of the standard Germanic poetic tropes of Wald and Heimat in the opening lines and 'unabashed ländler' section in the middle (bars 9-20). Portamento is often described as 'sentimental' or 'nostalgic' and the fact that Webern asks for it in a song that evokes a mythical or idealised past suggests this association may have existed prior to 1945, too, although it may not have had quite the hackneyed, schmaltzy connotations it can have for audiences today. Daniel Leech-Wilkinson suggests that the rapid disappearance of portamento in the early part of the twentieth century may be linked to the Second World War, after which the naïve and heartfelt emotion suggested by pitch slides became reinterpreted as inappropriate and embarrassing sentimentality. This may have been related to the growing appeal of Freudian psychoanalysis, he suggests, with its uncovering of the darker side of human nature and its implication that no emotion can be truly innocent or sincere. Safer, perhaps, to get rid of emotions in music altogether.

[814] Ibid., 176.

Why should portamento ever have been linked with naïve and heartfelt emotion? Leech-Wilkinson suggests it has to do with its resemblance to infant-directed speech or 'motherese' – the kind of vocal pitch slides mothers make when talking to their babies. The connection between the kind of nostalgic landscapes described in 'Abendland II' and Webern's maternal conception of Heimat is further developed by Johnson,[815] who traces the creative transformation of the composer's trauma – in the form of the death of his mother and the loss of the family home – into an abstract, Utopian ideal of 'the maternal' that pervades his music. If we accept Johnson's point that Webern's construction of nature as maternal (intimately tied up with his conception of 'angelic presence') was an expressive topic to which he continually returned, then we might also accept the possibility that Webern construed the initial violin portamento in 'Abendland II' as a signifier of the nostalgic, though perhaps not in a sentimental sense, but in an idealistic sense, as a poignant signifier of a past existing in what Johnson terms 'paradisial memory'.[816]

I would suggest that the material connotations of portamento are key to its expressive effect on 'leise' and on other occasions too. Dorothy Dorow, for instance, draws out the lullaby-like qualities of the word in 'Gesang' at the line 'so leise blutet Demut' [so quietly bleeds meekness], both by using portamento and by producing a light vocal timbre, a soft, high voice such as one might put on when talking to an infant: on 'leise', she sounds as though she is singing while smiling [Audio 75]. Because Dorow emphasises the maternal connotations of the word so strongly, the resulting juxtaposition of 'leise' with images evoking violence and religious virtue has a powerfully visceral effect.

The 'leise' leitmotif, therefore, illustrates some of the ways in which portamenti can create musical meaning on both syntactic and semantic levels. This leads us directly on to an important aspect of portamento that is inseparable from its ability to evoke gestures and emotions – its resemblance to speech. A small, but significant, number of portamenti in the recordings occur on words describing other sounds, especially vocal sounds. These include, in 'Abendland II', Dorothy Dorow's flamboyant swoop up to 'Sing' on top G# at 'Singende im Abendsommer' [singers in the evening summer], and

[815] Johnson (1997 and 1999).
[816] Johnson (1999), 80.

up to 'ertönt' [resounds] at 'Frühlingsgewitter ertönt' [spring thunder resounds] in 'Abendland I'. In the same song, Claudia Barainsky and Heather Harper mark 'läuten' [ring] with portamento, describing the semi-mythical character Elis' footsteps 'ringing through the grove', and in 'Gesang', the line 'den goldnen Schritt ersterbend unter den Ölbaum' [his golden step dying away under the olive tree] is given at least one pitch slide by five of the six singers.[817]

The use of portamento to evoke speech sounds, as in the 'leise' motif, invites obvious comparison with Schoenbergian Sprechstimme, in which the continuous pitch slides of spoken language are incorporated directly into melodic lines. *Pierrot Lunaire*, premiered in 1912, was undoubtedly an important influence on Webern when he began writing the Trakl songs. Webern deeply admired *Pierrot*, praising it on several occasions. The day before he completed 'Abendland III' in 1917, he wrote to Schoenberg saying that he had 'actually tried again to copy your *Pierrot* directly'.[818] Indeed, there are striking similarities in instrumentation and texture between the two vocal cycles that go far beyond their common use of a soprano soloist. Given the portamenti in the vocal score, is it possible that, for Op. 14, Webern wanted something like the 'heightened speech' of *Pierrot*, with lots of glissandi and few stable pitches, the melodic contours serving rather to create a kind of exaggerated spoken intonation? We know from his remarks on the Op. 3 songs[819] that Webern considered pitch accuracy subordinate to melodic shaping and a few lines in Op. 14 do seem to demand a Sprechstimme-like delivery. For example, with the given metronome mark, the line 'Sonne aus finsterer Schlucht bricht', at the end of 'Die Sonne', must be sung so rapidly that hitting the notes in the score is virtually impossible; instead, the line takes on the character of a semi-spoken outburst. Moreover, the speech-likeness of the Trakl songs is enhanced by their entirely syllabic text setting. However, it is still difficult to imagine how Webern would not have specifically asked for a novel effect like Sprechstimme in the score had he wanted it, given the general level of detail in his scores.[820]

[817] We may recall that the words 'läuten' and 'ersterbend' were also given portamento marks by Webern in the vocal score.
[818] Letter to Schoenberg dated 12 September 1917, quoted in Shreffler (1994b), 116 and – in a slightly different translation – in Moldenhauer (1978), 267.
[819] Quoted in 6.1. above.
[820] Boulez, back in 1949, found it odd that Webern 'never once used [Sprechstimme] throughout an important body of vocal works'. 'The reason for this escapes me', he wrote, 'unless it lies in his unbending quest for purity and his denial of any element of drama'. Boulez (1991), 202.

Though Webern apparently stopped short of Sprechstimme in Op. 14, the parallels between the songs and *Pierrot Lunaire* hint at a common underlying conception by their composers of sung melody lines as speech-like – of song as an extension or exaggeration of speech – an aesthetic that may be described as 'Expressionist'. I would like to argue that the speech-likeness of pitch slides, as well as portamento's expressive associations – with physical movement, strong emotion and maternal intimacy – draws more attention to the sheer sonic qualities of poetic lines, and to those of the voice that sings them, than if the same lines were sung without portamento. Portamento seems to assert the embodied existence of the singer more strongly onto the song: the voice draws attention to itself as a singing voice. We might think of portamento, then, as a self-sufficient vocal gesture, a kind of expressive heightening of the voice – not primarily an imitation of something else but an enhancement, exaggeration, or dramatization of what is already there. For example, a swoop up to a very high note might function simply to emphasize how high it is by communicating an impression of the immense vocal effort needed to reach it, whether real or not, from singer to audience.[821]

The Expressionist aesthetic principle of heightening communication through exaggeration underlies the following, more theoretical exploration of the Op. 14 recordings. The 'embodied' quality of portamento in performance, its capacity to draw attention to the voice itself, has aesthetic consequences that particularly concern the model, or models, of subjectivity presented by the songs. There is a voice, of course, but we might still ask who, exactly, is singing and who are they supposed to be singing to? I will argue, along with others, that Webern's Trakl songs can be heard in terms of heightened, exaggerated subjective expression but that the identity of the subject is often ambiguous and difficult to precisely define. However, as our impression of the 'musical subject' is something constructed in performance as well as in the score, the degree of ambiguity can be affected considerably by the approach the singer chooses to take. First, though, I shall consider more carefully what is meant by 'lyricism', and look more closely at Trakl's poems.

[821] Arnold writes that: 'In a wide leap upward, use of portamento often sounds bad, and causes distress in the audience (is the singer going to make it to that high note? Wow, that sounded difficult!).' This effect, clearly, should not be overdone.

6.3. Performing subjectivity

6.3.1. Webern, Trakl and the lyrical subject

The term 'lyrical' traditionally implies three things when applied to music: firstly, a melodic, linear focus; secondly, a kind of static suspension of musical time in which a single mood or idea is explored (in contrast to developmental music, in which ideas evolve and musical time moves forwards); and thirdly, especially in vocal music, the presence of a 'lyrical subject', the musical parallel of poetry's 'lyric ego', whose thoughts and feelings form the primary expressive content. Lyricism has become a key term in Webern scholarship in recent years. Anne Shreffler describes his music as:

> [P]assionately lyrical, even if its utterances sometimes emerge compressed or fragmented. This disjunct lyricism lies at the heart of Webern's vocal works, especially of the middle-period songs Opp. 12-18. […] The lyric quality of Webern's middle-period songs is displayed by their compressed, non-narrative structure as well as by their melodic prominence. This compression, a quality shared by the lyric poem, heightens the direct, intense projection of emotion so characteristic of Webern's songs.[822]

By highlighting these qualities – compression, melodicism, introspection, atemporality, non-narrativity, and emotional intensity – Shreffler situates Webern within a long Germanic lyrical tradition that can be traced back to Schubert or earlier, except that with Webern, in Op. 14, 'the reflective moments that freeze the passage of time in *Winterreise* have now become the primary mode of discourse'.[823]

These lyrical qualities also characterize the poetry of Georg Trakl, an Austrian contemporary of Webern – although they probably never met – whose writing was cut short by his suicide in 1914 at the age of 27.[824] There is little narrative development in Trakl, especially in the later poems: their use of pools of recurring images, often the stock images of Romantic poetry arranged in uncomfortable or threatening juxtapositions, gives them a static, almost ritualistic quality. As Shreffler writes, like Webern's music, Trakl's poems in the posthumously-published volume *Sebastian im Traum*[825] have:

[822] Shreffler (1994b), vii and 6.
[823] Ibid., 6.
[824] The following interpretation of Trakl is adapted from Shreffler (1994b).
[825] Trakl (1915).

> [A] disjunct, almost non-syntactical structure. By distorting traditional images and dissociating them from one another, Trakl produces something very much like atonality in music. He removed the unifying force of a single voice, an 'ich', resulting in a fragmentation of perspective.[826]

This dissolution of the 'ich', or (lyric) ego, in the poems is achieved partly by creating ambiguity about the identity of the narrator. The six texts from *Sebastian im Traum* that Webern sets in Op. 14 mostly have no first-person narrator, instead revolving around dissociated third-person descriptions of landscapes, animals, or plants, or nameless beings who may or may not be human: der Wanderer, ein Krankes [a sick thing], ein Totes [a dead thing]. Only the mysterious character Elis, who appears in many poems, is called by name. Narrative voices may be briefly implied, but they are transient and their identities are never firmly established. Of the six poems set by Webern, the first two contain only third-person statements. The third poem, 'Abendland II', briefly moves into the first person plural with the opening line 'So leise sind die grünen Wälder unser Heimat' [so quiet are the green forests of our homeland] and the third line 'Und wir haben im Schlaf geweint' [and we wept in our sleep]. But we are unsure as to who is speaking, so the sudden emotional intensity of the line is jarring and unsettling: who is weeping in their sleep? Of the remaining poems, only the fifth, 'Nachts', contains any first-person statements, while the fourth, 'Abendland III', contains three lines addressing an imaginary audience from the perspective of an unknown narrator. The contemplative, emotional quality of the lyric genre remains, but in a depersonalized form: it is no longer at all clear who is doing the contemplation or whose emotions are being explored.

In Webern's settings, Shreffler argues, the music enhances the 'fractured syntax' of Trakl's poems by means of its 'multiple reference'.[827] There is very little of the literal repetition of the traditional 'lyrical' strophic song in Op. 14. Instead, a kind of static, reflective quality is created through the interweaving of motives: each motive references several other, related motives simultaneously by means of intervallic, pitch, contour or rhythmic similarities, like the 'leise' leitmotif. These internal references are rarely exact. Rather, motives undergo a certain amount of transformation while remaining similar enough to suggest a constant, unchanging present. Christopher Wintle coins the term 'developmental lyricism'[828] to describe the result, which he describes as a

[826] Shreffler (1994b), 29.
[827] Ibid., 239 and 242.
[828] Wintle (1996), 242.

synthesis of lyrical repetition and Schoenbergian developing variation. For example, Webern's melodic setting of the enigmatic and rather disturbing line 'Silbern weint ein Krankes' [silver a sick thing weeps] in 'Abendland I' directly recalls his setting of 'Langsam reift die Traube' [slowly ripens the grape] in the previous song, 'Die Sonne'. The contours and rhythms of these lines, though not identical, are similar enough for the second line to recall the innocent rural image of the first, reframing it retrospectively as something far more sinister and disturbing. Performing both these passages with the same portamento pattern, as many singers do, only reinforces their troubling connection.

This fine network of subterranean connections running through the songs weaves them together but also multiplies their ambiguities, tending to amplify the overall complexity by adding an extra layer of potential meaning rather than clarifying the texts by supporting one single reading. The 'leise' leitmotif, for example, draws attention to a latent poetic connection and highlights certain gestural associations of the word, but does nothing to 'explain' it in any wider sense; rather, it enhances its enigmatic quality, its existence as a blank, almost self-referential symbol. The songs are allusive but their meanings ultimately elusive. There are many possible readings – all possible but none certain.

6.3.2. Voice or voices? Heather Harper and Dorothy Dorow

Neither Trakl's poems nor Webern's songs can easily be understood as the expression of a single perspective, but, kaleidoscope-like, appear to emanate from multiple perspectives and to be the expression of many different voices. Their lack of linear narrativity suggests a lack of a single narrator. The result is that the lyrical voice appears disjunct, fragmented and dissipated, the fiction of a single voice singing in time radically undermined. As Shreffler writes: '[A]s in the poetry of Mallarmé or the paintings of Kandinsky, there is a rejection of monolithic linearity'.[829] But if Webern's songs reject linearity then should one try to sing them linearly? And how do singers, having only one voice, deal with implied ambiguity or even multiplicity of character? I shall now consider two recordings of the Op. 14 songs that represent contrasting responses to this challenge. They can both be considered 'lyrical', but vary greatly in terms of the strength and singularity of the lyrical voice they present. It will be seen that

[829] Shreffler (1994b), 245.

the extent to which the songs are heard as the expression of a single subject (as opposed to multiple subjects) can depend very much on the performance. We might think of the models of subjectivity presented by the songs as largely constructed by the singer.

The first recording, Heather Harper's from 1967, emphasises smooth melodic linearity and thus creates a relatively stable vocal identity, but at the expense of communicating expressive detail. The second, Dorothy Dorow's 1986 recording, aims instead for a 'direct, intense projection of emotion', but at the expense of continuity, constructing a more fragmented version of the self that sings the songs. The differences between them are clearly audible in their respective performances of the line 'Tau, der langsam tropft von blühenden Dorn' [Dew, dripping slowly from the blooming thorn] from 'Gesang'. This rich poetic line contains a strong visual image, intensified by the previous line, 'so quietly bleeds meekness' which suggests the dewdrops are actually blood. The Biblical references throughout – thorns, olive trees, meekness – and the suggestion of redemption in the final lines lend the poem an additional allegorical dimension. Heather Harper's performance [Audio 76] principally focuses on expressing the qualities suggested by the words 'langsam' [slowly] and 'blühenden' [blooming]. Her legato, smoothly cantabile style lends the phrase a languorous, lush quality, and her pronounced portamento on 'hen-den' of 'blühenden' (bar 15) emphasises the sensual qualities of the word. However, she disregards some of the dynamic markings, instead preserving a relatively uniform dynamic level with a relatively constant vibrato, favouring continuity of sound over intensity of communication.

Dorothy Dorow's performance of the phrase, on the other hand [Audio 77], is characterized by sudden and extreme contrasts in dynamic level, timbre and articulation, with much greater variety of articulation and more obvious rests. Every single expression mark in the score is realised in some way, the double hairpin in bar 13 on 'Tau' [dew], clearly audible as a rapid crescendo-decrescendo. Sung without vibrato, and coupled with a slight flattening in intonation, it seems to evoke a dew droplet welling up and about to fall.[830] The overall effect is one of hyper-acute sensitivity to every microscopic poetic inflection. The words 'langsam tropft' [slowly drops] and especially 'Dorn' [thorn] are sharply articulated, the tenuto signs interpreted with a marked emphasis on the beginnings of the notes and an exaggeration of hard consonant

[830] This gesture is immediately imitated in the instruments in the accented chord played by the clarinet, bass clarinet and cello – a very direct example of word painting.

sounds (such as the 'pft' of 'tropft'). At 'vom blühenden' [from a blooming], Dorow's vocal tone becomes much softer and, like Harper, she slides at 'hen-den'. At 'Dorn', her articulation becomes harder again, her suddenly harsh consonant attack on the 'D' sound rendering the contrast between the images of blooming flowers and a sharp thorn with arresting immediacy. Unlike Harper, Dorow barely projects her voice, performing the entire phrase within the *pp* dynamic range Webern asks for.[831] However, the effect of intense expressive emphasis on each individual micro-image means that the overall phrase fragments into nonsyntactical segments (Tau/der langsam tropft/vom blühenden/Dorn), no longer a single continuous statement.

Arnold Whittall, reviewing Dorow's recording in *Gramophone*, describes the differences between Harper and Dorow's performances in terms of a contrast between 'the dramatic and the lyric':

> On Boulez's CBS set on LP […] both Heather Harper and Halina Lukomska aim for smoothness of line at the expense of close fidelity to the composer's dynamic shadings, and the result—especially in Harper's account of Op. 13—is serenely expressive. But is it what Webern wanted? Dorothy Dorow makes every effort to take his highly detailed notation seriously, and her great technical resourcefulness means, for example, that in Op. 15 No. 1 we really do get a high C sharp sung *ppp*. Yet the effort takes its toll; phrases shiver into fragments, there are many squally sounds, and Dorow is not helped by a rather fierce recording. A singer with a lighter voice, if she could match Dorow's accuracy and variety […] would probably achieve a better sense of style in this music, holding the dramatic and the lyric in a more appropriate balance.[832]

Conflicting notions of authenticity are at stake. Harper's cantabile style, with carefully shaped phrases, probably better creates the kind of flowing, shaped performance described in Webern's letter to Schulhoff.[833] But Dorow's densely expressive, exaggerated approach, with its sudden dramatic contrasts, follows the detailed expression marks in the score much more closely. Harper's performance succeeds in enhancing a sense of große Linie, of overall melodic coherence despite the wide leaps, and Dorow's at communicating strong emotions and vivid text-painting – but neither consistently succeed at both. Preserving linear continuity and projecting the kind of

[831] This may be a result of recording techniques too, however (see Chapter 3) and we should bear in mind the extent to which dynamics are less a product of absolute volume than context. According to Arnold, 'there is no absolute decibel level for *ppp* – it is always a combination of responses to text, meaning, instrumentation, timbre, and intention […] also performance situation/location'. Personal interview, 2010.
[832] Whittall (1990), 111.
[833] Quoted in 6.1. above.

detailed intensity suggested by Webern scores seem to be goals that are very difficult to reconcile in practice. Yet Webern, who was fully aware of their potential to conflict, wanted them to be reconciled. At the end of his exhaustively detailed breakdown of the rubato he desired for the Ricercare fugue subject in the letter to Hermann Scherchen quoted in Chapter 1, Webern added 'of course, the subject must not appear too disintegrated by all this'.[834]

Whittall's criticism of Dorow's 'squally sounds' also deserves comment. Her hyper-expressive approach does sometimes lead to some rather extreme, almost grotesque timbral effects, such as the odd, choked vocal tone in 'Gesang' at 'Strahlende Arme erbarmen/Umfängt ein brechendes Herz' [compassion of radiant arms enfolds a breaking heart], the climactic final lines of the whole song cycle [Audio 78]. The text paints a religiously-inflected Liebestod-like vision of absolute redemption coupled with utter dissolution, and Dorow's tone sounds utterly overwhelmed with emotion – 'Herz' is almost a kind of ecstatic choking. The sound may also have a technical basis in Dorow's straining to convey the notated *fff* dynamic on the low notes that end this phrase, and particularly on the vowel sound of 'Herz'. This straining may be real, or partly simulated through exaggeration, but in a sense it does not matter: the effect is the same and the beauty of sound is sacrificed to the vivid communication of raw emotions.

This brings us back to the problem of conveying Webern's fragmentary and potentially hysterical-sounding melodic lines outlined near the beginning of this chapter. Whittall comments on the need to balance 'dramatic' and 'lyric' impulses in performance, but I would argue that both Harper and Dorow's performances can be conceived as lyrical, although in different ways. The smooth melodicism of Harper's recording constructs a lyrical voice that is relatively singular, stable and consistent – more 'traditional' – while the fragmented outbursts and wild contrasts of Dorow's performance aim instead for a 'direct, intense projection of emotion'. In heightening the Expressionist character of the songs, Dorow's recording constructs a more modernist lyrical subject, a fragmented, scattered version of the 'self' that sings the songs. And any impression of hysteria produced, in passages like the end of 'Gesang' or the entire of the fifth song, 'Nachts', is typically entirely appropriate to the expressive situation.

[834] Letter of 1 Jan 1938. Quoted in Eimert and Stockhausen (1959, eds), 19. [1955 German edition, 26.]

Looking in more detail at this song will allow us to further explore some of the aesthetic implications of Harper and Dorow's different approaches.

6.3.3. 'Nachts'

'Nachts' is a song about dissolution of the ego into madness. The opening line of the poem provides a rare example of a first person subjective perspective – 'Die Bläue meiner Augen' [the blue of my eyes] – but one that is 'extinguished' [erloschen] in the night.[835] In Webern's setting the voice must enter in an uncomfortably high, shrieking register before swooping down an octave and a half at 'Augen' to the lowest extreme of the soprano range. As discussed earlier, all singers in the recordings slide here, though none more than faintly.[836] Webern notated a portamento on 'Augen', as we saw in 6.2.1. above, perhaps to encourage singers to exaggerate and heighten the sense of effort involved in performing the interval rather than try to hide it.

The melodic contour of the opening of 'Nachts' can be read as indicating a kind of desperate assertion of self that rapidly peters out: 'erloschen' imitates the falling contour of 'Augen', but more feebly, before 'in dieser Nacht' resignedly fills in the registral space, coming to rest in the middle of the vocal range. The melodic surge at 'Das rote Gold meines Herzens' [the red gold of my heart] also evaporates, the melody coming to a temporary pause in mid-register as the narrator suddenly contemplates 'how still the light burned'. As Shreffler writes:

> In 'Nachts', light represents the narrator's personal identity, which is dissolved […] by the encroaching Night. The unexpected exclamation in the second line, "O! wie stille brannte das Licht", is therefore not only a syntactical and structural interruption; it wrenches the narrator back to a time before the events he is describing, into a moment of dispassionate reminiscence of his intact ego.[837]

Heather Harper sings the line 'O! wie stille brannte das Licht' with a smooth legato and a subtle sense of shaping, clearly enunciated consonants (and a beautifully rolled 'r' on 'brannte'), a regular vibrato, and little or no portamento, other than a very subtle swoop

[835] The following interpretation of 'Nachts' is largely adapted from Shreffler (1994b), 219-24.
[836] According to Tony Arnold, the slide in her recording was intentional and was meant to communicate the 'extremity of register and emotion' at this point. Personal interview, 2010. One suspects that a singer attempting a slower, more pronounced portamento here would risk producing a gratuitous howling noise, although this would be perfectly in keeping with the subject-matter of the song.
[837] Ibid., 221.

up to ‘wie’ [Audio 79]. Notably, the word ‘Licht’ [light] is sung with the same vibrato that she has used on long notes throughout the song, and the dynamic level of the line is quite consistent. Her performance of this line, indeed, conveys an impression of ‘dispassionate reminiscence’: calm, composed and in control, even if her lingering over the final consonants of ‘Licht’ betrays a certain nostalgic sadness. Dorothy Dorow’s performance, however [Audio 80] uses a wider range of timbres and types of articulation than Harper’s, although much less vibrato. The result is that Dorow’s performance seems closer to a spoken statement than Harper’s ‘musical’ rendition of the line. In particular, her audible exhalation of breath after ‘O!’ mimics a sigh, and her emphatic swoops up to ‘wie’ and ‘das’ make the line sound more like a spoken exclamation. These swoops, however, fall on unstressed syllables in weak metrical positions. One of them could conceivably mimic the accentual patterns of a spoken exclamation (oh, *how* still…) but the other does not make sense in these terms (*the* light?). Rather, the implied emotional instability of the swoop makes her voice sound slightly disturbed. These portamenti, then, as well as the rapid fluctuations in dynamic level and types of articulation in the rest of the song, seem to mimic disordered speech, portraying irrationality, a lack of inhibition, and signalling the narrator’s loss of control and identity. Dorow’s ‘pure’ vocal tone and complete lack of vibrato on the word ‘Licht’, however, evoke the image of a still, unwavering flame with singular intensity, all the more poignantly contrasting a previous serenity with the turbulence and distress of the narrator’s current state. This vividness of imagery means that the contemplation of the light reads less as ‘dispassionate reminiscence’ of the past than a sudden intrusion of the past into the present. Shreffler writes that the use of the past tense throughout ‘provides a layer of distance between the narrator and the two losses that he describes: first a loss of identity, then of reason’.[838] But in Dorow’s performance this distance is collapsed: the narrator briefly relives a previous state rather than merely recalling it.

If ‘O! wie stille…’ forms the lyrical centre of this short song, it is flanked by turbulent outer sections. The texts of these outer sections are largely symmetrical and their repeated colours and parallel declamations – the first half in the first person, the second in the second person (the blue of my eyes/the red gold of my heart/your blue coat/your red mouth) have a deliberately contrived, nursery-rhyme-like quality. However, Webern’s musical setting deliberately subverts this symmetry: whereas the song begins in a very high register, it ends abruptly in a very low register. Like its

[838] Ibid., 220.

narrator, the song is literally 'unbalanced'. The final phrase (Dein rote Mund…) reaches a climax on a top C on the critical word 'besiegelte' [sealed], in bar 15 before plunging down over two octaves to finish on a low B on the word 'Umnachtung' [madness]. The descending minor ninth of this final interval is one of many huge falling vocal gestures that occur throughout the song, identifying the movement of the melodic line with the narrator's subjectivity and conveying their crashing 'descent' into insanity with hopeless finality.

Harper's and Dorow's recordings of the final words in bars 16-17, 'Des Freundes Umnachtung' [the friend's madness] reflect, however, different perspectives on this finality. Harper's performance [Audio 81] softens the hard edges of the jagged melody with a smooth legato, the conventionally rolled 'r' on 'Freundes' and relatively long final note (the B of 'tung'), producing the effect of a 'musical' completion. Dorow's performance [Audio 82], on the other hand, positively eschews completion. She screams out the top C (on 'besiegelte'), swooping around the melody line in a fluid, volatile manner and greatly exaggerating the crescendo-decrescendo hairpin on the syllable 'nacht', which is only faintly reproduced by Harper. The resulting emphasis on this syllable illuminates the poem's central metaphor – the equivalence of night and madness – by drawing attention to the linguistic connection between 'Nacht' and 'Umnachtung'. Leech-Wilkinson writes that a 'rapid hairpin dynamic' can also serve as 'a speech-associated index of pain'.[839] Dorow's final note ('tung') is so brief that barely anything remains of it other than a faint 't' sound; rather, it as though the melody has been snatched abruptly away, the narrator suddenly silenced as though stunned by shock. Her final line imitates the vocal sounds of a person in pain (sudden, sharp cries and hard, barely-voiced consonants) in a violent evocation of anguish, allowing us to vividly picture the bitterness of the narrator's loss.

Our impression of the narrator's relationship to the unexplained events in the song that have caused all this pain is certainly affected by these contrasting performance strategies. The relative calm of Harper's recording seems to imply the narrator is standing outside the events they describe, commenting on something that happened in the past, perhaps even reaching a state of acceptance with regard to it. Dorow's narrator, on the other hand, still experiences the pain intensely. Other aspects of their performances also reinforce this contradictory impression: of the six recordings of this

[839] Leech-Wilkinson (2006), 246.

short song, Dorothy Dorow's is by far the fastest. This fits with Kurt von Fischer's interpretation of the song's rapid tempo:

> Why does [Webern] choose *Sehr lebhaft* as the tempo for "Nachts"? It seems as if he wanted to compress his (and Trakl's) emotions by a kind of time-accelerator. The vocal line reflects an emotional, hurried way of reading the text, which fascinated Webern.[840]

Whereas Harper's narrator is slower and more composed, Dorow's narrator is caught up in racing thoughts of the terrible, although mysterious, events she describes. Their different readings of 'des Freundes Umnachtung', especially, seem to suggest a slightly different relationship between content and narrator, a different construction of subjectivity. As in all the Op. 14 Trakl texts, the exact identity of the narrator in 'Nachts' is unclear; so is the identity of both the unnamed figure, addressed in the second half of the song, and the 'friend' who goes mad. Dorow's performance, with its vivid expressions of pain, suggests that the narrator himself is mentally unstable and, therefore, is to be identified with 'the friend', while Harper's performance would rather tend to suggest that the friend is a third, unnamed person. In Dorow's reading, it is as though the narrator refers to himself in the third person in the final lines, as though 'beside himself'. I refer to the narrator as male here both because 'Freund' is a masculine noun and because of the fact that the 'red lips' – a feminine sexual symbol – of the unnamed figure are blamed for the friend's derangement, which would seem to imply a damaging sexual relationship with a female other. This would put 'Nachts' into the large category of works – *Pierrot Lunaire* another contemporary example – in which a high soprano voices the thoughts of a male lyrical ego. This is hardly unusual, of course, but in the case of the Op. 14 songs, the resulting ambiguity of gender reflects a more general ambiguity of character and lyrical identity.

Singers can influence the listeners' impression of the identity of the narrator to an extent, then, creating incomplete, temporary subjective identities even in these brief and deeply ambiguous songs. However, in Dorow's performance, the constant changes in articulation, dynamic level and timbre tend to disrupt the sense of a single voice singing more than in Harper's. The disjunctions in timbre may be particularly important. As Mine Doğantan-Dack writes:

[840] Fischer (1992), 11.

> If pitch and rhythm express, symbolize, or evoke emotions, speech, bodily movements, and narratives – as many writers in the history of Western musical thought have argued – it is only logical that listeners experience these as the expressions of a unified virtual musical persona. Timbre thus gives "voice" to the motions, speech, and movements of the musical self. In fact, it *is* the voice of such a self.[841]

But in Dorow's performance, the vocal timbre is constantly changing – there is no 'unified virtual musical persona' but, instead, multiple personae. This impression of multiple voices is of course a matter of suspension of disbelief on the listener's part: it is obvious that the songs are still sung by one person; it is rather the fictional lyrical voice, or ego, or narrative persona, presented by the songs that emerges as fractured in Dorow's performance. Its identity is elusive; it assumes different masks, 'putting on voices'. In terms of psychopathology, it is as though the narrator were hearing internal voices and we, the audience, were party to their delusions. The fractured model of subjectivity presented in Webern's Op. 14, like that of Schoenberg's *Erwartung* (premiered in the same year), is typical of much Viennese modernist art, music and literature. As Peter Collier writes, the 'Modernist image' in literature 'accommodates the idea that the mind is split against itself'.[842]

Key to the dissolution of the lyrical voice is the vivid immediacy with which Dorow projects the textual images – suggested by the expression marks in the score, which often appear to transparently serve the purposes of text-painting. Even where these images are merely impersonal symbols – a light, a thorn – Dorow evokes them so strongly that she seems less to be commenting on them, as Harper does, than directly representing them. It is as though her vocal persona merges with the subject matter of the song, seeming to 'disappear' into it via total identification. This idea of total subjective identification links closely to Adorno's reading of Webern. In the essay 'Anton von Webern', Adorno outlines an Expressionist aesthetic of immediacy and directness, a 'new type of expressivity', in some of Schoenberg's free atonal works, a 'terrain' in which, he argues, 'Webern's music then made its home'. This new expressivity 'became possible because of the elimination of the linking categories that had hitherto existed between expression and the musical surface. Casting all its preexisting forms to one side, music became direct expression'.[843] Adorno could be accused of overstating the case in an attempt to stress the shock of the new in

[841] Doğantan-Dack (2008c), 70-71.
[842] Collier (1990), 18 n. 24.
[843] Adorno (1999), 93.

Schoenberg and Webern: surely expression can never actually be 'direct', but is always mediated by the communicative codes upon which it depends, which are partly culturally constructed? And yet, it is possible to understand what he means when one listens to a performance, like Dorow's, that exaggerates the extremity of the expressive gestures suggested in the scores, giving them a kind of 'immediate' quality by highlighting their resemblance to emotional vocalisations that tap into more basic, less enculturated responses to sound. One might argue that all music taps into these to at least some extent, but according to Adorno, Webern took 'direct' subjective expression to its 'absolute' limit. This is critical to Adorno's formulation of the 'absolute lyricism' [absolute Lyrik] of Webern's music, which he defines as 'the attempt to resolve all musical materiality, all the objective elements of musical form, into the pure sonority of the subject'.[844] The Trakl songs, he says, are exemplary of this: their 'completely plowed-under construction' means that their form is no longer visible as such and everything in the music serves the needs of subjective expression. Their lyricism is therefore 'pure', and 'absolute': 'Webern – one is tempted to say, Webern alone – succeeded in doing this'.[845]

6.3.4. Identification and alienation

I stated above that the inner world of the lyrical subject or ego forms the primary content of a Lied, but what – or who – is this 'lyrical subject'? It is to be distinguished from the real performer, as well as from the composer or poet, although there may be overlaps. The lyrical subject or narrative persona may also, arguably, be distinguished from the performer's own semi-fictional persona, which Philip Auslander describes as 'the version of self that a musician performs qua musician' – although there are perhaps some overlaps here, too.[846] The lyrical subject is, instead, the fictional character of a song, the personality whom the audience know they are supposed to (pretend to) believe is singing: the miller in *Die schöne Müllerin*, or the woman in *Frauenliebe und -leben*. However, as Christopher Wintle writes, when listening to a Lied, the audience are supposed to be mere observers of this character, who ostensibly appears to be singing for themselves alone:

[844] Ibid., 92-93.
[845] Ibid., 93 and 100.
[846] Auslander (2006), 104.

> Unlike sung narrative, a lied is an utterance that is not directed ostentatiously at an audience but, in a manner of speaking, is overheard by the audience. Listeners are essential to the ballad, but incidental to the lied. […] Lyric character, in other words, denotes a certain preoccupation of the 'lyric ego' with itself, which is (apparently) unmodified by awareness of an attentive other.[847]

The idea of the Lied as a moment of unobserved self-contemplation is taken to an extreme in Webern's Op. 14 songs, writes Shreffler. The songs are 'intensely private, almost hermetic works', of 'innerliche Einsamkeit' [inner loneliness].[848] Adorno, too, writes that the works of both Webern and Trakl grow out of 'detached, submerged inwardness'.[849] The total identification of the lyrical subject with the things it describes occurs because the things it describes are objects in an internal subjective world, not in the world 'outside'. This kind of modernist construction of the lyrical subject – as not only fatally split but totally internalized – invites a difficult relationship with audiences. In performance, a singer is always singing for others, whether they are physically present (as in a live concert audience) or not (as in a recording). It is, therefore, part of their role to communicate the songs to an audience while simultaneously pretending not to.

Considering the Trakl songs within this communicative framework allows us to ask what effect their temporary, unstable and mysterious lyrical subjects might have on an audience: to what extent listeners may be able to react to or identify with them, or conversely, to what extent they might be alienated. The question of the identity of fictional narrative personae (or lyrical subjects) is closely bound up with that of audience communication: an audience cannot properly react unless they know to whom they are supposed to be reacting. In many places, as we have seen, Webern sets Trakl's poetry in such a way as to invite the transparent identification of the singer with the musical and poetic material, so that the emotional reactions of the singer seem to become inseparable from the emotional content of the song. For example, in 'Abendland I', the line 'Zakkige Blitze erhellen die Schläfe die immerkühle' (bars 22-25), the mysterious Elis appears suddenly illuminated by lightning, his temples revealed to be 'perpetually cool'. The impact of the revelation – that Elis must be dead – and of its supernatural implications (how, then, did his footsteps 'ring through the grove' earlier in the song?) is heightened by Webern's melodic setting of the vocal line. The critical word 'immerkühle' [perpetually cool] is reached on a top B (bar 25), the

[847] Wintle (1996), 232.
[848] Shreffler (1994b), 5.
[849] Quoted in Ibid., 20.

registral and emotional climax of the song. Singers signal their complete emotional identification with the emotional content of the song, almost as though they are reacting on behalf of the audience, inviting them to feel the same things they do.

However, the emotional connotations and, therefore, the meaning of this climax varies between performances. In Dorothy Dorow's recording [Audio 83], she executes an exaggerated swoop up to the top B marked with a strong, sharp crescendo, following the dynamic hairpin in the score. The result sounds like a shriek of horror. Dorow seems to react to Elis's death with fear and shock, leading us to interpret the supernatural implications of the text as eerie. Conversely, while Claudia Barainsky also slides up to the top note, she gets slower and quieter as she approaches it, then louder and faster again as she descends from it [Audio 84]. The moment of revelation is interpreted completely differently as one of a vision of serenity, the 'evercool' Elis angelic rather than demonic. Dorow's recording follows the dynamics given in the score while Barainsky's directly contradicts them, so perhaps Webern envisaged horror rather than awe here, although it would be difficult to argue that they were not equally successful as interpretations.

This example illustrates that although the high notes in Op. 14 have the potential to convey shrieking hysteria, they do not have to do so. To refer back to Adorno's statement quoted earlier,[850] when performed without 'anxiety and bravura' Webern's extremely high tessituras need not alienate listeners; whether they sound shrill and anxious or not is largely up to the skill and intention of the singer. Sometimes creating an impression of anxiety (as opposed to actually being anxious) may be entirely appropriate to the expressive content of the text – as in the top C in 'Nachts' – or sometimes it may not – as in the top C on 'Himmel' [heaven] in 'Die Sonne' (which all singers in these recordings perform with a lightness and delicacy). At other times, as in the example above from 'Abendland I', the singer can choose.

Often the extent to which the audience is invited to emotionally identify with the emotional content of the songs is very much under the control of the singer. As we have seen, portamento is a potentially powerful technique – sometimes too powerful for modern tastes – for inviting emotional identification from listeners, partly by creating a sense of embodied subjective presence. Heather Harper's performance of 'Silbern weint

[850] Adorno (1999), 100.

ein Krankes' [silver a sick thing weeps] in 'Abendland I' [Audio 85] uses ample portamento. She noticeably swoops up to the top A ('Sil'), then the transitions to the following three notes (bern-weint-ein) are sung with portamento with rhythmic anticipation. In contrast, Grace-Lynne Martin [Audio 86] performs it almost entirely cleanly with no portamento (a faint slide 'bern-weint' excepted). But although Harper's performance would seem to evoke a more immediate emotionality whereas Martin's is more 'objective' and distant, the effect of Harper's portamento on this ambiguous line, on this listener at least, is not one of straightforward emotional identification. We, the audience, do not know the identity of the 'sick thing' that weeps, nor its relationship to the narrator, but the singer's portamento forces intense emotionality into the picture. However, it is a confused emotionality without an object: is the narrator identifying with the sick thing by imitating its weeping, or cooing in sympathy or even anticipating the audience's reaction to it? The combined impression of music, text and performance gestures at this point, as many others in the Trakl songs, is of a pained, bewildered emotionality not attributable to particular subjects or relationships between subjects, which always remain ambiguous. As a result, an abstract but pervasive sense of threat lingers over the songs.

The Trakl songs tend to prevent the listener from getting a clear perspective on their own reactions and, since the relationship between lyrical subject and audience is constantly shifting, they confound the formation of a subject-position. Eric Clarke defines subject-position as 'the way in which music may afford a less immediate relationship – one in which a listener is both aware of what is going on in the music and what it might mean, and also has a sense of his or her own perspective on that meaning'.[851] But by refusing to construct a single lyrical voice and, correspondingly, a single meaning for each utterance, the songs seem designed to evade any such self-conscious, synthetic reaction. They do not allow the listener to stand 'outside', but only to identify completely with them, or alternatively to be alienated by them – again completely and entirely.

The only possible exception to this might be the fourth song, 'Abendland III', which sets up a dialogue between the narrator and an imaginary audience within the song. I will now discuss a recording that I think plays with the degree of distance within this fictional subject-audience relationship by placing barriers to identification between

[851] Clarke (2005), 91.

the singing narrative subject and the (real) audience – barriers that are eventually broken down. 'Abendland III' contains three direct addresses to the imaginary audience, dispersed throughout the text:

> Ihr großen Städte steinern aufgebaut in der Ebene! […]
> Ihr weithin dämmerden Ströme! […]
> Ihr sterbenden Völker![852]

These three lines, which allude to Hölderlin's 'Lebensalter', are written in the manner of direct public appeals in the style of a formal oration.[853] But the public to whom they appeal cannot be simply equated with the real audience. Rather, as Shreffler points out, they are addressed to 'an unnamed public' within the poem: the inhabitants of the 'mighty cities' that have been destroyed. The singer, as lyrical narrator, assumes a role of authority to address the imaginary audience and as such can no longer be identified with the content and images in the song in quite the same direct way. The types of portamento singers use to signal this authoritative distancing are very interesting. In the six recordings, 'Abendland III' is sung with relatively few pitch slides, but with a greater number of ascending portamenti relative to descending portamenti, especially when compared to the other songs in which descending portamenti are more often used [Table 13]. These ascending portamenti are mostly accentual swoops. For example, the first syllables of 'Ebene' (bar 3) and 'Ströme' (bar 10) are both given swoops by three of the singers. The lack of overall portamento in 'Abendland III' may be related to the more conjunct character of the melody, with fewer leaps and the long note values in the vocal part (meaning there are fewer notes and so opportunities to slide overall). Nonetheless, singers' relative lack of portamento tends to produce a more 'objective', distanced effect – by avoiding both the evocation of emotions and of the physical presence of the performer – and the use of emphatic swoops for emphasis, arguably, reinforces this by imitating the accentual patterns of a formal speech.

The internal distancing is heightened by the repeated hard consonant sounds in the poem. As Shreffler writes, in the line 'Ihr sterbenden Völker' 'the "st" sound in "sterbenden" recalls "steinern aufgebaut", "dunkler Stirne", and "Im Sturmgewölk" as

[852] Ye mighty cities built up from stone in the plain! […] Ye distant twilit rivers! […] Ye dying peoples!
[853] Shreffler (1992), 149-50.

well as its counterparts "großen Städte" and "dämmernden Ströme"'.[854] These are particularly emphasised in Dorothy Dorow's recording, in which the overpronunciation of consonants becomes a key expressive feature [Audio 87]. Not just the 'st' sounds, but also the 't' sounds of 'aufgebaut', 'Heimatlose', 'mit' (bar 5) and 'Wind' ('d' at the end of a word sounds like 't' in German), are greatly exaggerated, so that in her delivery of the final line 'fallende Sterne', barely anything is audible apart from the huge 'st' in 'Sterne' [Audio 88]. The exaggeration of the high frequencies in these consonant sounds in Dorow's recording produces a harsh, percussive effect totally appropriate to the pain and violence implied by the text. Imagining the bodily basis of these exaggerated consonants (tense jaw muscles and clenched teeth) could imply that the narrator is here experiencing pain, fear, or anger herself. This interpretation – in which the narrator is identifying with the suffering of the imaginary audience – seems to be somewhat at odds with the idea that they are also distancing themselves from them. A third interpretation reconciles them: the narrator is attempting to distance herself emotionally from the terrible events described in the song but cannot manage it. Tony Arnold notes how the instruments in this song:

> '[A]ct as an alter-ego of sorts […] the insistence of the [bass clarinet] sixteenth notes portends the imminent collapse of the world that the singer [makes] efforts to describe in a stern, smooth, controlled line as if trying to hold everything together.[855]

The hard consonants, then, become signs of the effort the narrator is expending in trying to 'hold it together', to maintain the illusion of distanced formality, while suffering at the same time – singing, as it were, through gritted teeth. Fittingly, at the climactic line 'Ihr sterbenden Völker!' [Ye dying peoples!], the sudden appearance of pathetic, empathic portamento signals that Dorow's narrator has 'cracked' and cannot hold back her feelings of despair any longer.[856]

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[854] Ibid., 153.
[855] Personal interview, 2010.
[856] We still do not know who these dying people are, who the narrator is addressing them, or why they are dying, although considering the poem was written in 1914 and Webern's setting in 1917 at the height of the First World War, its wider social implications are not hard to fathom.

6.4. Conclusion

We have seen how some of the aesthetic and critical issues relevant to Webern's Op. 14 Trakl Songs are played out in performance in these six recordings. The technical and expressive challenges for the singer posed by the Trakl songs are considerable: high notes, large melodic leaps and rapid changes of dynamics in a tightly contrapuntal, post-tonal context. Reconciling melodic linearity with the dense expressivity implied by the score is particularly difficult and Webern's apparently contradictory desire for both could be thought to indicate an idealistic attitude to performance. On the other hand, as in much complex music, the aural results of singers' physical attempts to wrestle with the material are an important aspect of the music's meaning in performance, even, or especially, when this produces an impression of hysteria. There are many places – for example, the whole of 'Nachts' – at which the text implies hysterical anxiety and performances that emphasise this quality can be considered in terms of an Expressionist aesthetic.

Performers strike a variety of compromises between overall melodic continuity and momentary expressive intensity, which can have a markedly different effect on the models of subjectivity presented by the songs. Considering two recordings that fall at opposite ends of the spectrum – Heather Harper's and Dorothy Dorow's – reveals that while Harper's constructs a more stable, more singular lyrical voice, Dorow's enhances the unstable, fragmented, modernist construction lyrical ego implied by the enigmatic Trakl texts, with their multiple potential meanings and ambiguous, non-narrative structures. Indeed, the vivid immediacy of Dorow's recording can be clearly related to Adorno's characterization of Webern's absolute Lyrik.

This chapter has also shown how critical constructs, such as the dissolution of the modernist ego, can be implied by performance gestures, the meanings of which ultimately arise out of basic psychological responses to sound, though intensely refined through cultural knowledge. Performers can shape and manipulate these responses in order to encourage particular higher-level aesthetic readings among listeners. Considering one particular performance technique – portamento – provides us with a lens through which to examine the process of meaning-formation in particular recorded passages. The Op. 14 vocal score implies that portamento was very much part of Webern's set of performance-stylistic expectations and had not yet fully taken on its

modern connotations of sentimentality and schmaltz. Indeed, the recorded sopranos use pitch slides for a variety of reasons, including communicating meaning both syntactically – for example by using portamento-legato to enhance melodic linearity – and semantically – for example to enhance musical gestures by evoking movement or exaggerating the emotional quality of a passage by imitating vocal sounds.

This links to the Expressionist conception of melody lines as exaggerated or heightened speech. Portamento's capacity to strongly evoke emotion and a sense of vocal embodiment is, however, problematic in the Trakl songs and the effect is of embodiment without a clear origin in a particular lyrical voice: emotion without a subjective source. This narrative ambiguity, coupled with the 'private' character of the songs, creates a complex communicative relationship with an audience that does not know who is supposed to be singing, nor what kind of response is expected from it, which makes it difficult to define the subject-position it should adopt. This results in an unstable and constantly changing relationship between lyrical subject and audience, characterized by temporary, uneasy appeals for identification that may easily be rejected. These recordings of the Trakl songs, therefore, illuminate particularly complex, particularly conflicted, particularly modernist configurations of sound and meaning.

Conclusion

Over the course of this study, we have seen how the changing sound of Webern on record is inextricably connected to the ways in which his music has been understood to be meaningful. The Darmstadt avant-garde notion of his music as abstractly modernist, confrontational and antagonistic was played out in a performance style that, correspondingly, emphasised the singularities and harsh disjunctions in his music. We can link the gradual increase in expressivity in Webern performance style since the 1950s to a revision of post-war modernism, to its reappraisal in the light of a postmodern aesthetic that values smooth, continuous surfaces, vivid gestures and precision of sound. This postmodern performance style has also entailed a partial return to the rhetoric (although not the actual practice) of the pre-war Viennese modernist performance tradition, thanks largely to the influence of figures like Stadlen and Kolisch. With the string quartet works, we can trace a continuous performance tradition back to Webern via the Kolisch and Juilliard Quartets. As we saw in Chapters 1-3, performance style and aesthetic ideas exist in a complex feedback relationship. Ideas can change performance style, but it is, arguably, more often the other way round. Changes in performance style can be driven by influential individual performers, such as Boulez and Craft, by wider aesthetic and technological shifts, or simply by growing practical performance experience.

Some specific questions emerged from the empirical studies that further research could address. For example, the average tempo study in Chapter 3 found a general slowing of tempo in recordings since the 1950s, but also showed that the fastest performances were often nearer to Webern's own metronome marks. Further research could determine the extent to which performers follow Webern's notated tempi for each work or passage. This would be a complex undertaking, since the notated tempi change so frequently, but it would help determine the extent to which the fast tempi of the 1950s were the result simply of textualism or, alternatively, of aesthetic decisions made more independently of the musical text.

It was also suggested in Chapter 3 that producers and engineers have had an important impact on the sound of Webern on record. Interviews with those working in the area could help us understand more about this. For example, it might be asked whether there are currently kinds of studio sound considered particularly appropriate for

Webern, for atonal music, or for twentieth-century music in general. Andrew Hallifax's comment on the association between the amount of reverberation and the age of the music being recorded suggests that there might be. This could shed more light on the ways in which performance style and recorded sound are influenced by technological developments. It should be remembered that the history of any composer's music on record is related to the history of recording technology. Developments in spectrographic and sound analysis software – as well as engaging more closely with producers and engineers – may allow musicologists to precisely analyse and describe the impact of factors like the acoustic on the sound of a recording.

Chapter 4 opened up many questions, as we saw. One of the most interesting issues raised was the idea that the sound of a performance can be a product of many complex contextual factors operating simultaneously, not all of which are 'intentional' in a strict sense. The resemblance between musical intonation and vocal intonation suggests that, like timing, dynamics and timbre, tuning can be perceived in terms of intensity contours that resemble emotional gestures and vocalisations. However, the idea that intonation, timbre and loudness together can be perceived holistically and qualitatively, as 'colour', is also interesting and would benefit from further research.

In Chapter 5, we saw how much of Webern's music problematises the notion of communication – a characteristic that can be seen as one of the defining features of modernism. While very openly gestural and Expressionist on one level, his music also works with kinds of meaning that cannot be directly communicated in performance, most notably the quadrivial serial and metrical 'games' played in the scores. This has a lot to do with the differences between the kind of meanings that can be apprehended in scores and those that can be heard in performances: the basic differences between visual and aural modes of perception or, in Cook's words, 'the sheer incommensurability of writing and playing'.[857] Webern reception has been very affected by what the cultural theorist Marshall McLuhan called 'visual bias',[858] which has manifested itself through the score-centricity of analysts. While this has led musicologists and analysts to ignore the expressive aspects of the music, to its detriment, there is, nonetheless, a sense in which his music is very amenable to this visual approach: it is 'eye music' as well as 'ear music'. Though we might want to reclaim the aural dimension of Webern's music –

[857] Cook (1999a), 251.
[858] McLuhan (1964).

to appreciate its exquisite timbral and spatial subtleties, nuances of instrumentation and sheer sonic beauty for their own sake (and recent recordings do increasingly foreground these qualities, something to which vivid recorded sound has certainly contributed) – there is also a sense in which, when listening to or playing Webern's music, we must always engage with the underlying tension between the aural and the visual that underlies so many of the contradictions of musical modernism, especially the pre-war modernism of the Second Viennese School. Understanding these contradictions – most notably the recurring tension between the Schoenberg School need for theoretical consistency and the relative flexibility they permitted in practice – in terms of a tension between visual and aural modes of understanding helps to situate them in a wider context and allows us to see this contradictory quality as part of the music's identity. Indeed, the idealism of Webern's scores, the occasional impossibility of his demands, the way in which the music seems to operate on multiple levels at once – all are aspects of the music that cannot simply be 'ironed out' through smooth performance, but invite correspondingly complex responses from the performer. In the Introduction, I asked what it might mean to 'comprehend', 'understand', or 'make sense of' Webern's music. As we saw in Chapter 5, we might conceive of understanding Webern's music meaningfully in terms of the drawing of connections between multiple layers operating simultaneously. Performances can direct our attention to one or more of these layers, or to particular connections between them, through the evocation of gestural shapes, emotional vocalisations, or other cross-modal mappings. Some of the ways in which performers do this were seen in the extraordinarily powerful recorded interpretations discussed in detail in this study – the Artis Quartett's recording of Op. 5, Krystian Zimerman's Op. 27, or Dorothy Dorow's Op. 14 – which make clear that musical meaning in its most specific, fully-realised sense is something largely created by performers.

In Chapter 6, I explored how critical, 'cultural' responses to sound can be traced directly back to embodied ones through the analysis of pitch slides in Webern vocal recordings. Throughout the study, I have worked on the assumption that musical performance is basically a communicative act between performer and listener and that the kinds of sounds made by performers are entirely continuous with other types of non-musical communication such as speech and bodily gesture. According to Tony Arnold:

> Successful communication in performance probably has much less to do with what we as singers are taught to focus on technically (diction, vowel placement,

> tone production) and much more to do with a holistic idea of embodiment of the text (intellectual understanding, emotional resonance, empathy, physiological/biochemical response to its meaning, and the multi-faceted interaction of all these parameters), the implications of which are played out in the minutiae of technique.[859]

Many of the most interesting ideas in this study emerged in discussion with performers and research into musical performance is unlikely to make much headway unless it can fully engage with performers' own understanding of what they do. Fortunately, plenty of research is doing this, linking empirical analyses of sound to ethnographic approaches.[860] The future of performance research looks very promising indeed.

[859] Personal interview, 2010.
[860] See Bayley and Clarke (2009).

Appendix A: Figures

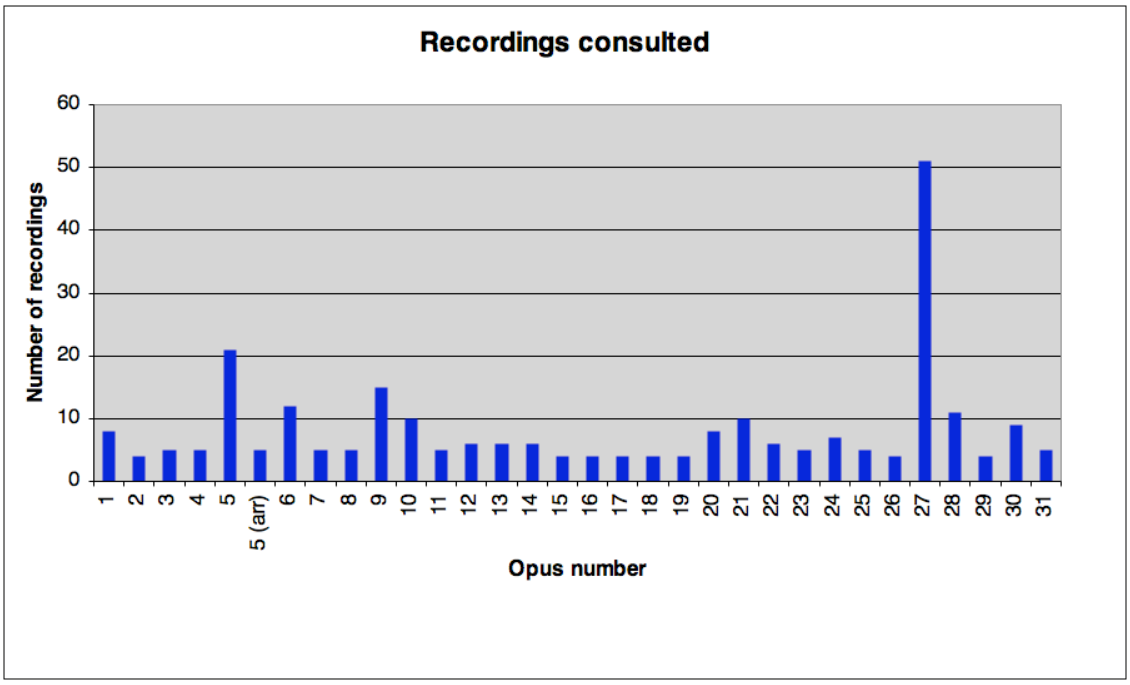


Figure 1: Recordings consulted for this thesis
The number of recordings of each opus number ranged from four (many of the choral works and middle-period songs) to 51 (Op. 27 Piano Variations), largely dictated by the number of commercial recordings readily available. Only 18 of the recordings of Op. 5 (19 of Op. 5 no. 5) were used in the tempo study in Chapter 3.

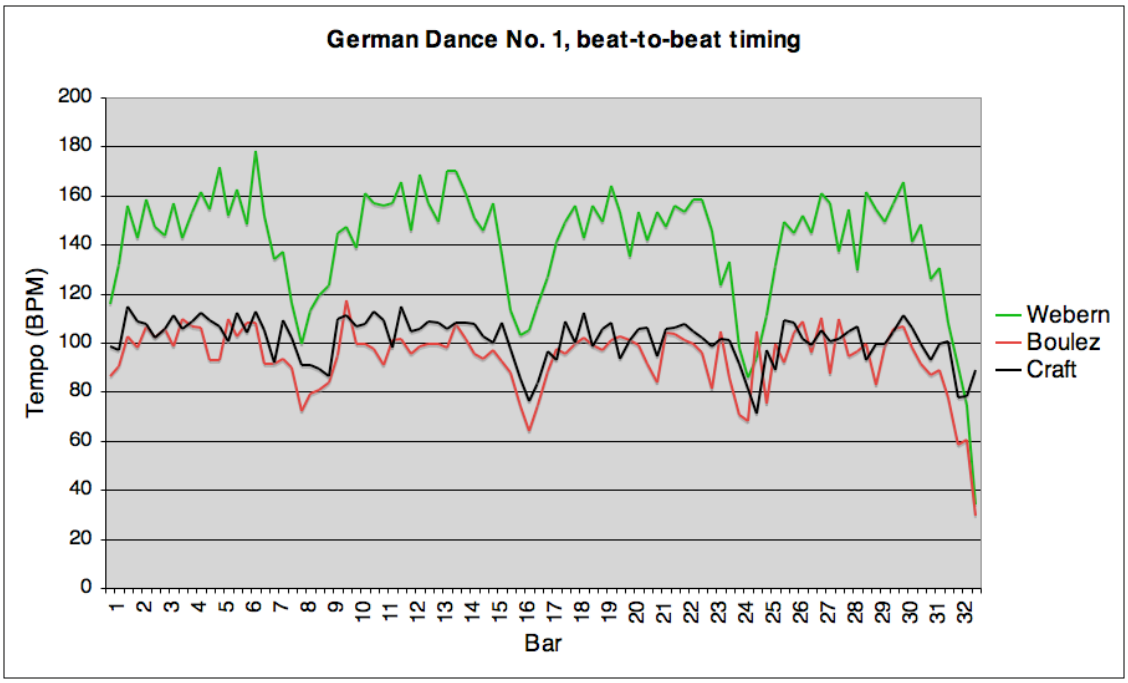


Figure 2a: German Dance No. 1, beat-to-beat timing

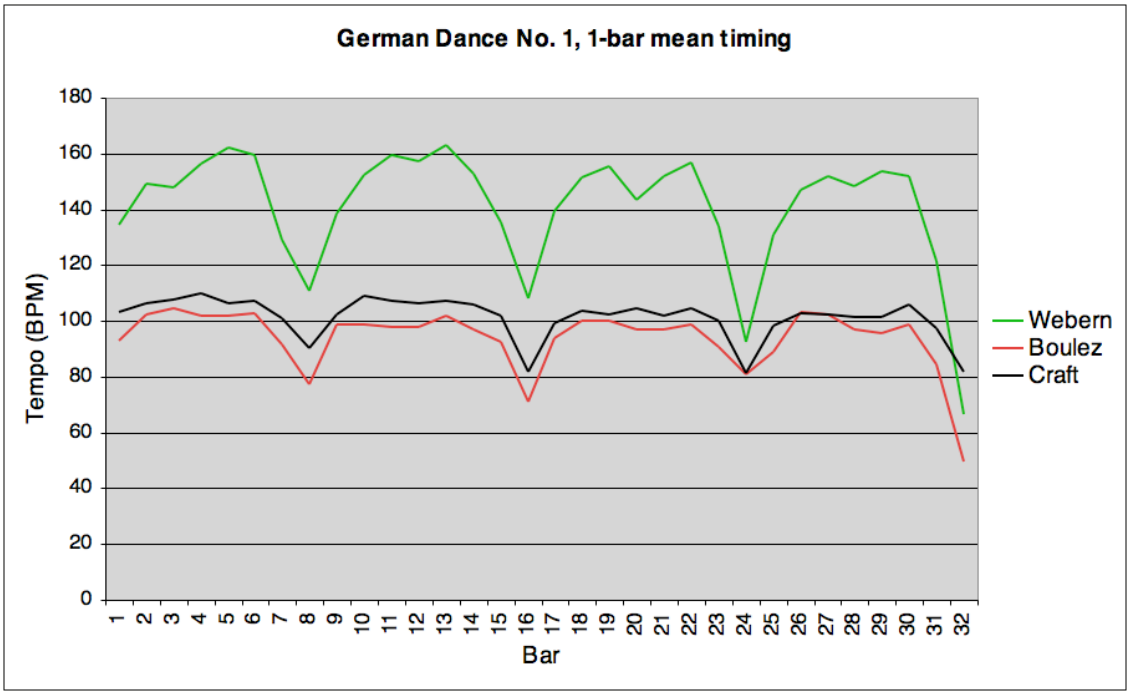


Figure 2b: German Dance No. 1, 1-bar mean timing
This graph uses the same data as Figure 1, but smoothed to the mean values for each bar, removing small-scale irregularities and revealing the phrase arching more clearly.

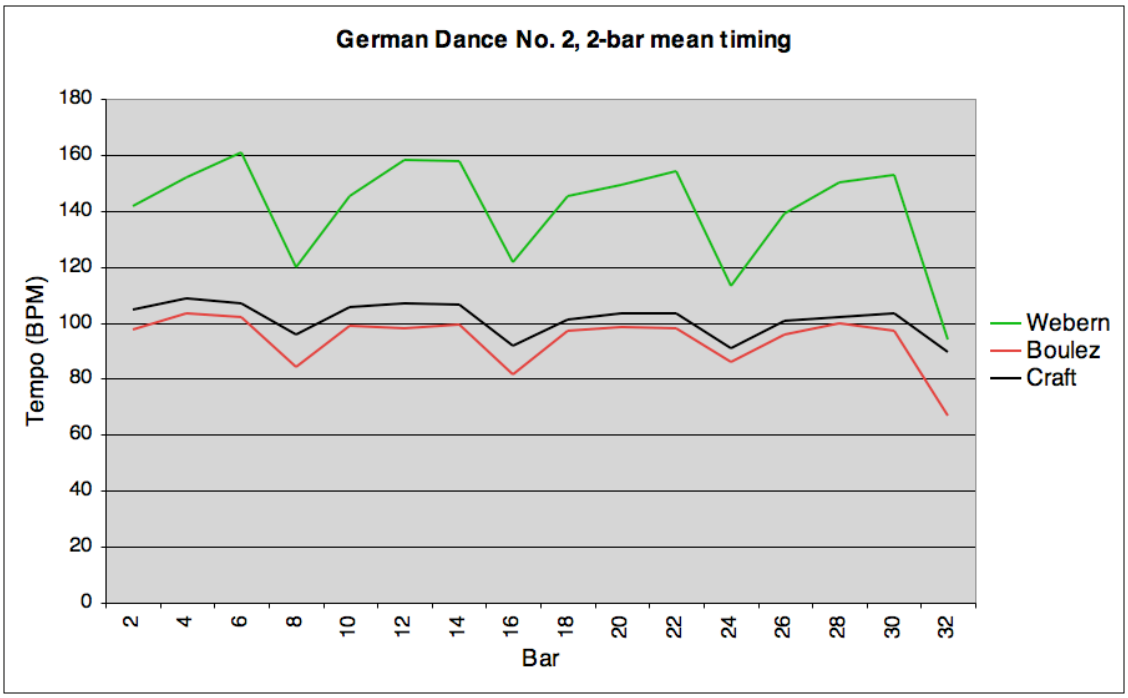


Figure 2c: German Dance No. 1, 2-bar mean timing
Webern accelerates gradually throughout each phrase then decelerates abruptly at phrase ends, whereas after a short initial acceleration, Boulez and Craft remain at a relatively constant tempo, producing flat-topped phrase arches.

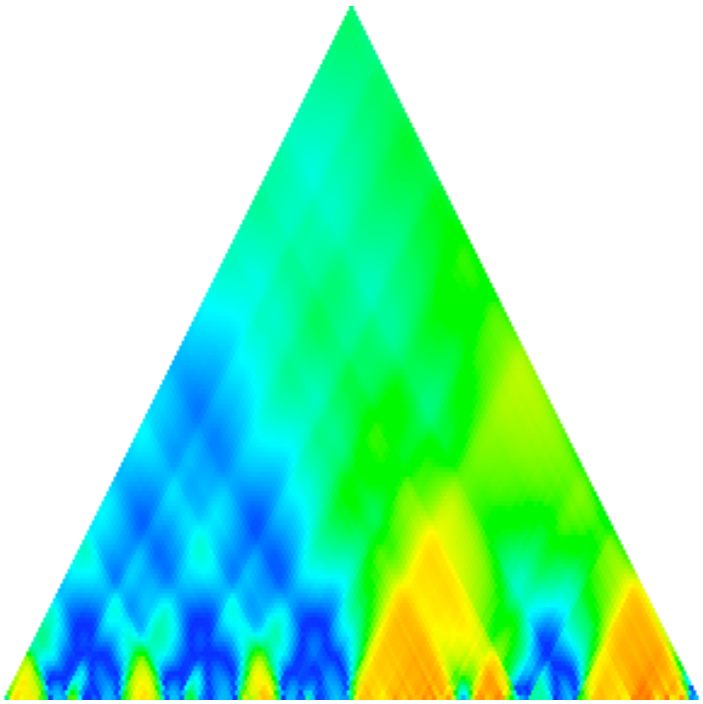


Figure 3: Timescape, Webern 1932, German Dance no. 4
The mean tempo is represented by the green colour at the tip of the triangle; the scale becomes smaller as one descends, with the individual tapped beat data represented along the bottom of the triangle. Faster than average tempi appear as yellow and red 'flares', and slower tempi as blue patches. As each 'level' of the triangle represents the mean of all the ones below it, it allows one to see timing patterns at all scales simultaneously.

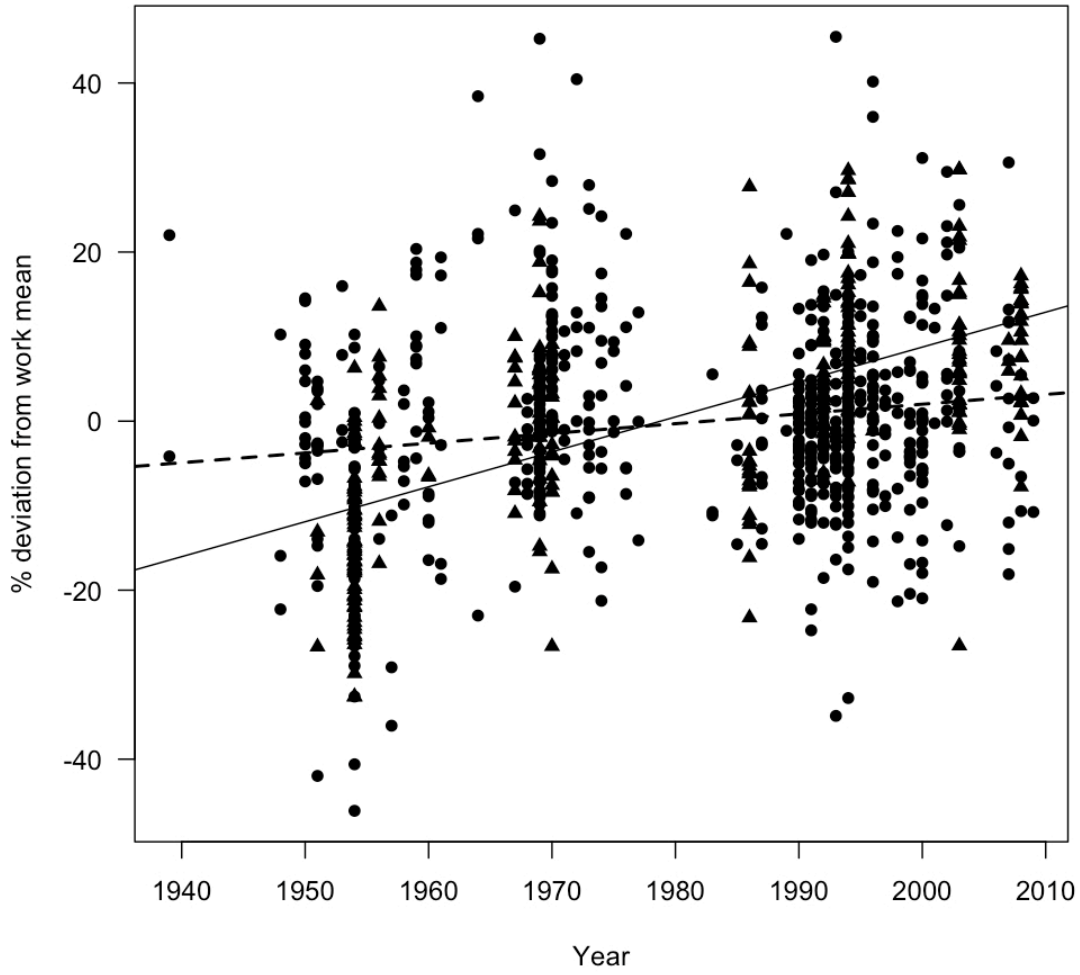
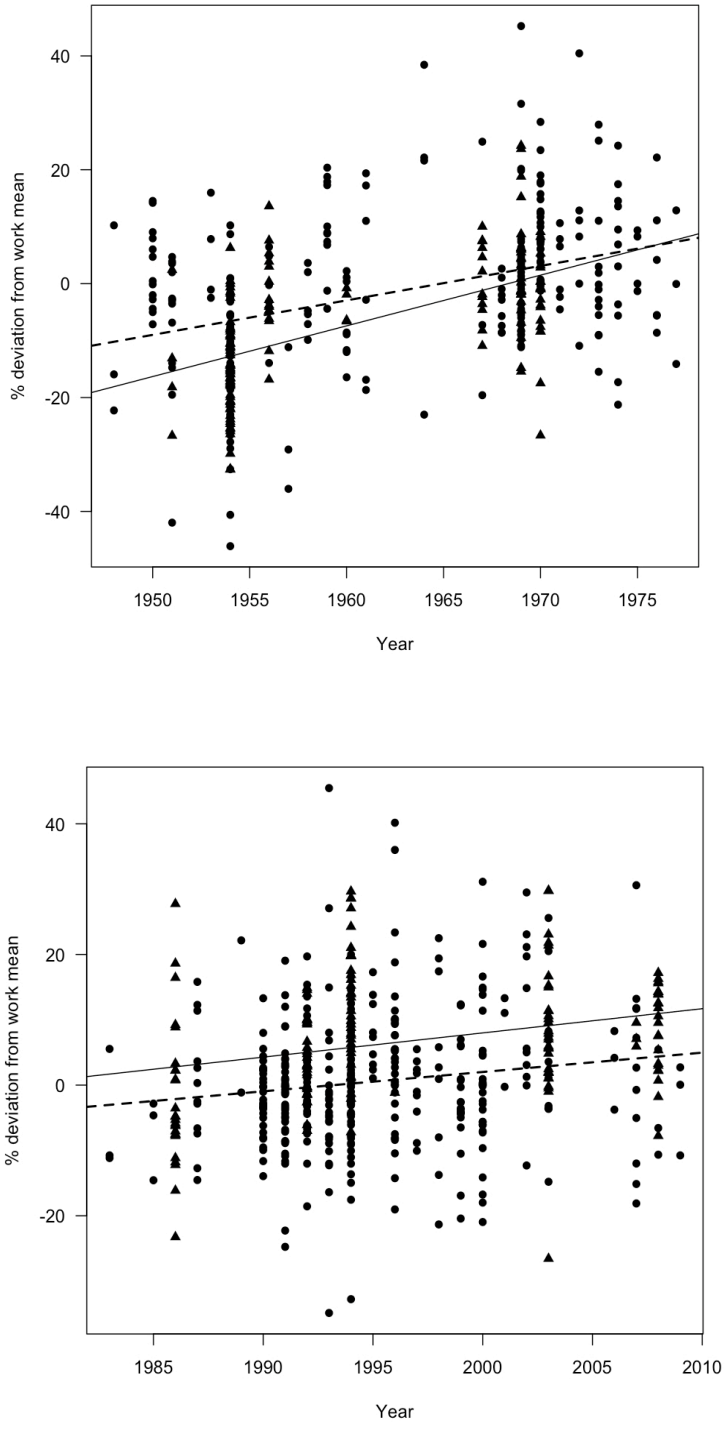


Figure 4: Percentage deviation from mean work duration vs recording year
This shows the duration of 928 recorded performances of Opp. 1-31, expressed as a percentage deviation from the mean duration for all recordings of each work, song, piece or movement, and plotted against the year of recording. Positive numbers indicate performances slower than the mean and negative faster. There is considerable variation, but on average, performances in the 1950s were faster than those from the 1960s onwards. Vocal works (triangles and solid line) have slowed more than instrumental works (circles and dotted line). Few Webern recordings were made during the late 1970s and early 1980s. The outliers on the far left are the two movements of the Kathleen Washbourne Trio 1939 recordings of Op. 20. One outlier was removed: Sviatoslav Richter's live performance from 1989 of the third movement of the Piano Variations, Op. 27, which was nearly 75% slower than the mean.



Figures 5a (top) and 5b (bottom): Slowing before and after 1980, all Webern recordings

These figures show the deviation from mean duration against the year of recording for 1948-1979 and 1980-2009, before and after the 'gap' in Webern recordings in the 1980s. Dotted lines and circles refer to instrumental and solid lines and triangles to vocal works. The bulk of the slowing occurred between the 1950s and the 1970s (R^2 .20, p <.001***) rather than after 1980 (R^2 .04, p<.001***). Before 1980, the vocal works (R^2 .14, p<.001***) slowed more than the instrumental works (R^2 .33, p<.001 ***), although performances of both the vocal (R^2 .07, p<.001***) and instrumental (R^2 .02, p<.001***) works continued to slow very slightly on average after 1980 too.

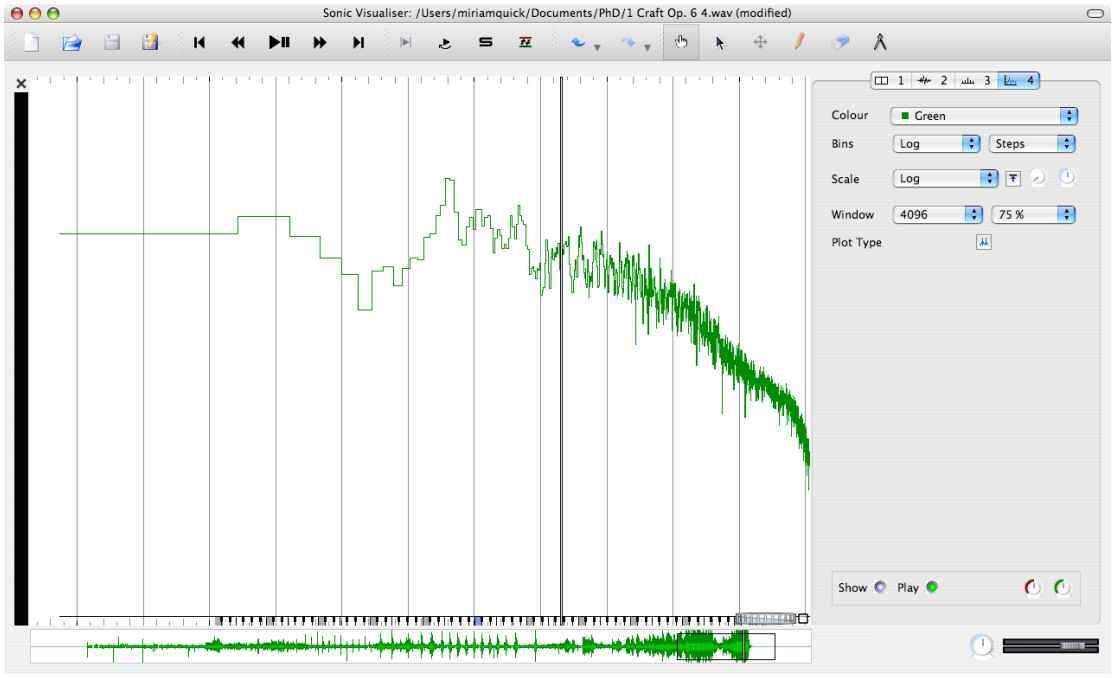


Figure 6a: Craft 1956

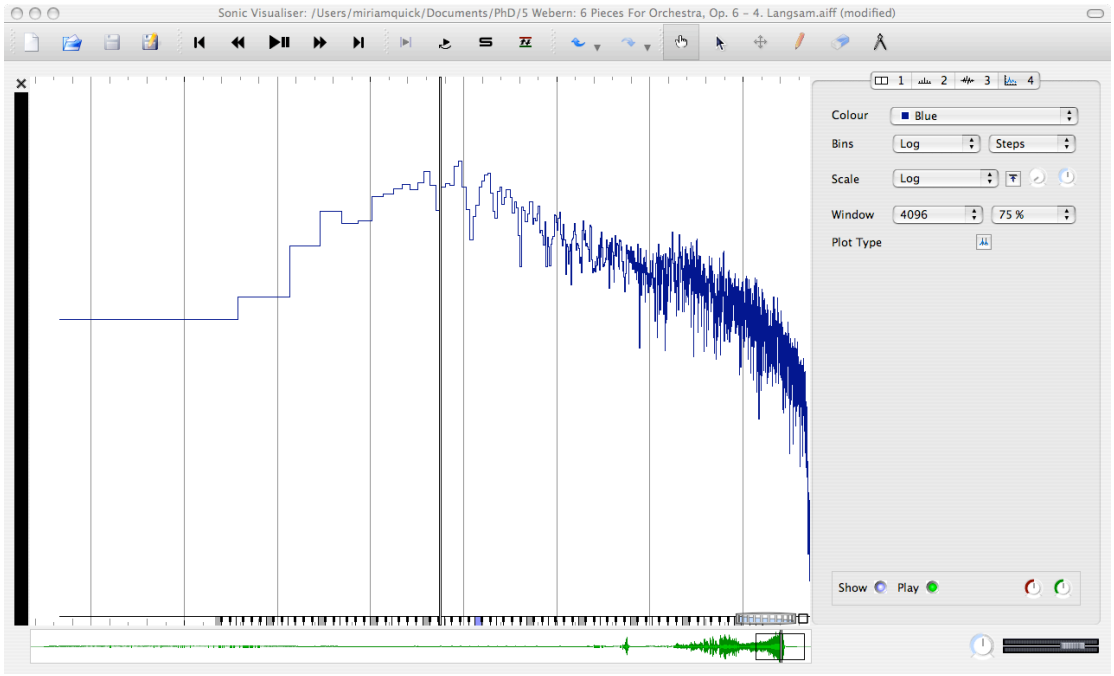


Figure 6b: Dohnányi 1992

Figures 6a and 6b: Frequency spectra at the end of Op. 6 no. 4, Craft 1956 and Dohnányi 1992
Screenshots of the spectra during the loudest part of the percussion climax at the end of Craft's and Dohnányi's recordings of Op. 6 no. 4, measured using the 'Add spectrum' function in Sonic Visualiser. Craft's spectrum was measured at 3:18.2 in his recording, Dohnányi's at 5:16.8. Craft's recording has a dip in the low mid-range and a peak in the high mid-range. Dohnányi's recording has more power in the bass and low mid-range range and a smoother overall frequency curve with fewer peaks.

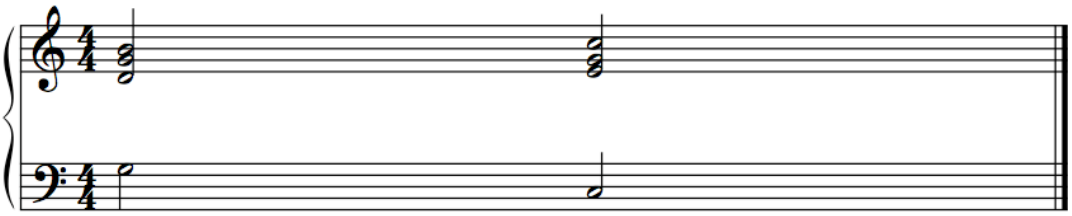


Figure 7: Four-part perfect cadence in C major

If played by a string quartet, the first violinist raising the intonation of the leading note B in the direction of C would result in a wide and 'unharmonic' major third between the B and the dominant root G. Slightly flattening the B to its Just value of 386.31 cents would maximise harmonic blending in the first chord, but fail to communicate a sense of melodic progression to the tonic. An equal-tempered third (400 cents) could offer a workable compromise, but first violinist could also choose to prioritise either vertical blending or melodic gravitation by raising or flattening the leading note.

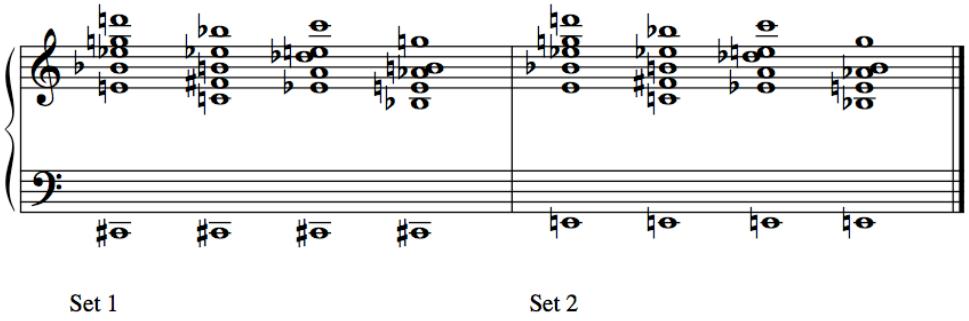


Figure 8: Chord sets 1 (C#) and 2 (E set), Op. 5 no. 5, bars 3-4

Set 3 is made up of the notes in the treble staff only.

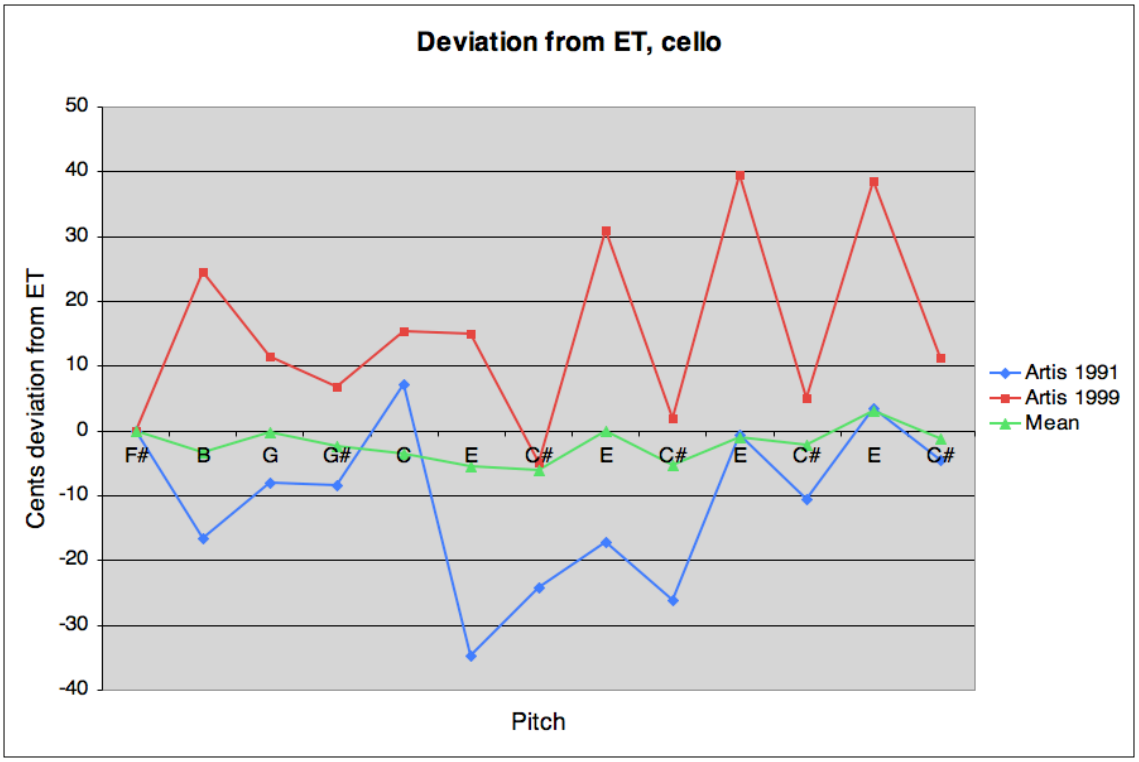


Figure 9: Deviation from equal temperament, cello, Op. 5, no. 5, bars 1-4

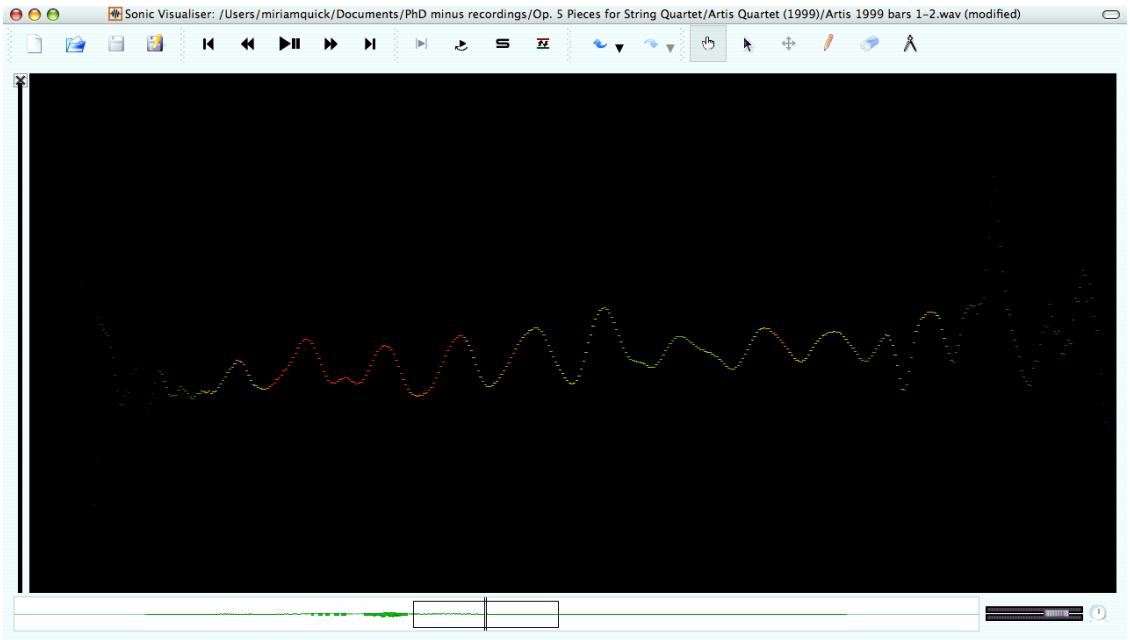


Figure 10: Artis Quartett (1999), G#, bar 2, cello, microintonation
Sonic Visualiser peak frequency spectrogram. Sharpening intonation coupled with softening dynamic (shown by the colour change from orange through yellow to green).

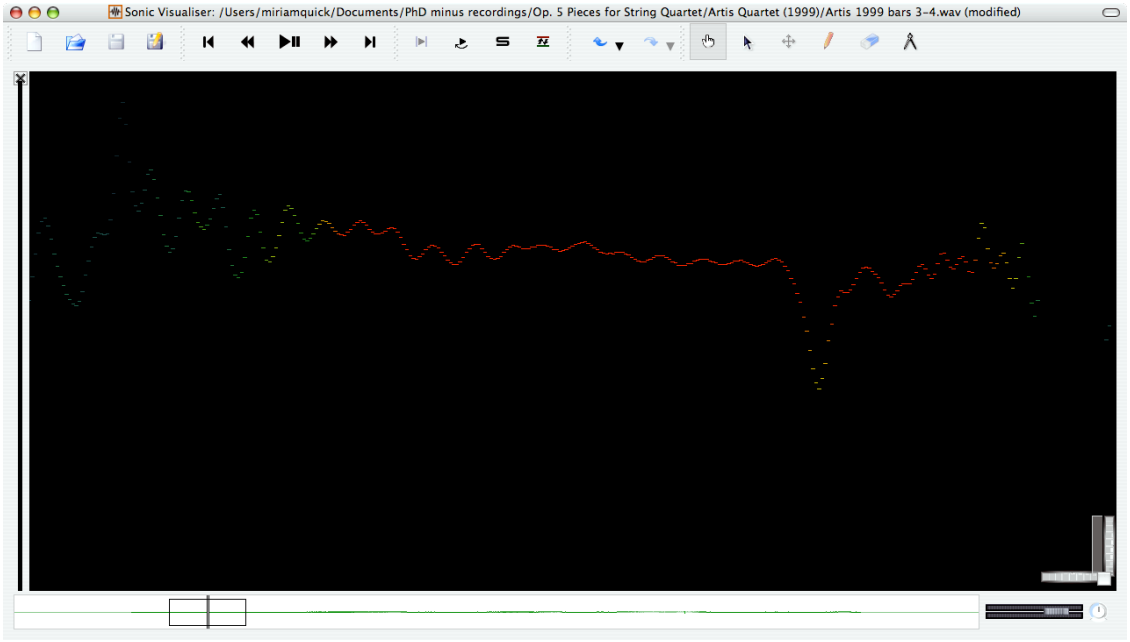


Figure 11a: Artis Quartett (1999), cello E (upbeat to bar 3), falling microintonation

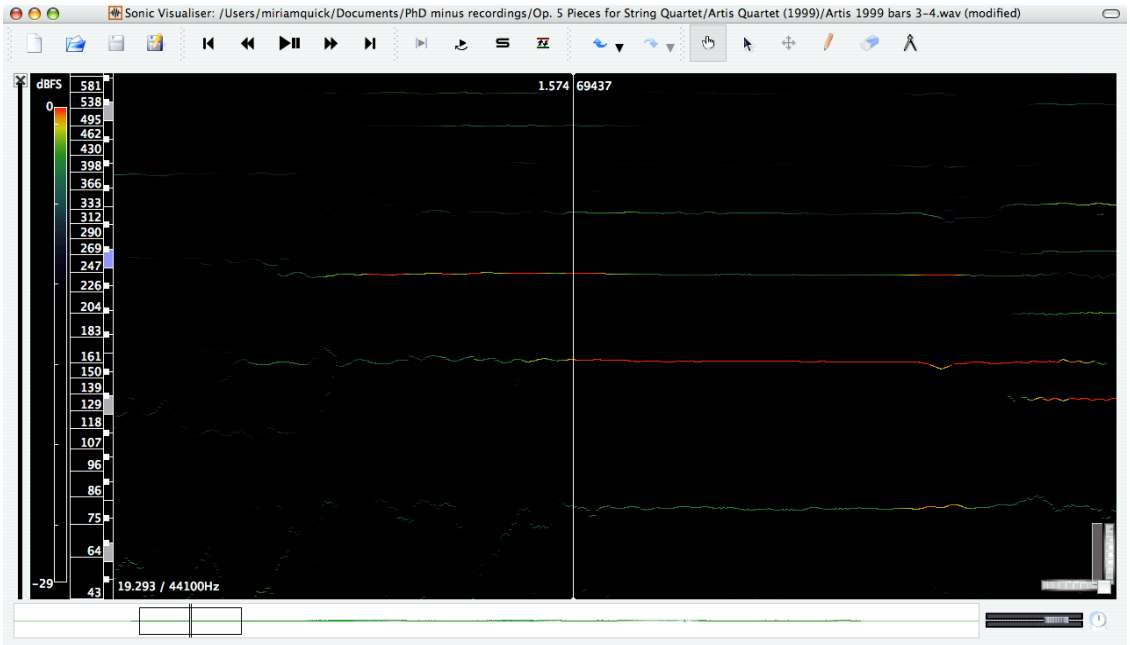


Figure 11b: Artis Quartett (1999), cello E (upbeat to bar 3), timbre

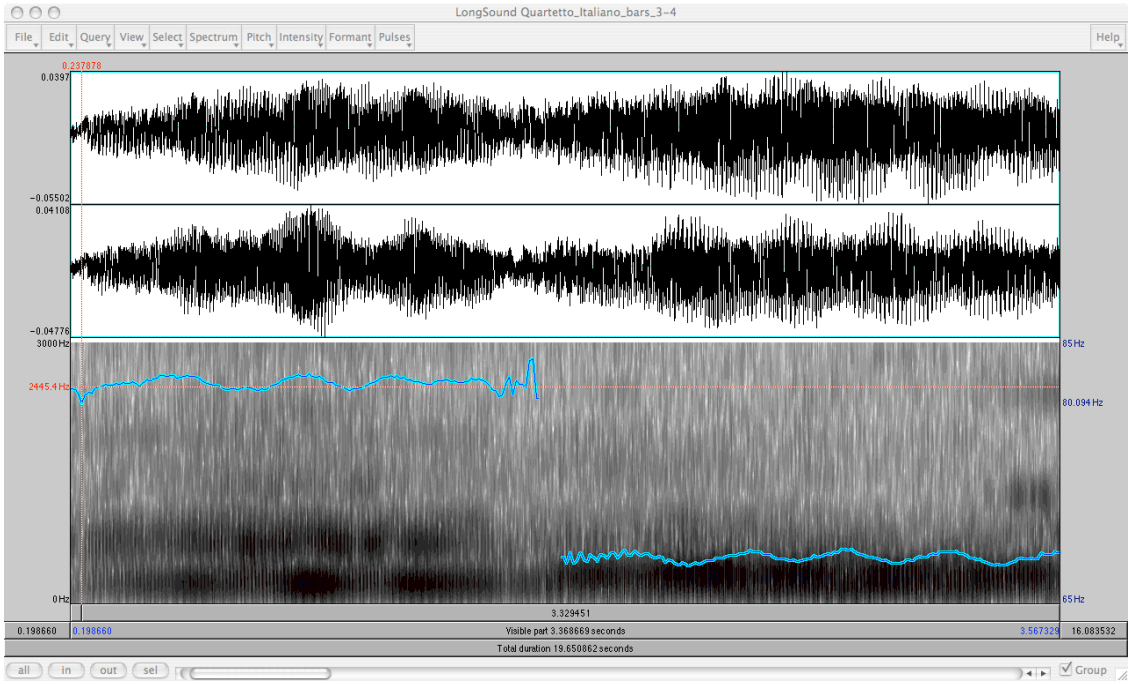


Figure 12: Quartetto Italiano (1970), Op. 5, no. 5, bars 2-3 (E-C#), cello, PRAAT screeenshot
The blue line in the bottom window shows the unusually slow (around 2-3Hz), wide undulations in fundamental frequency of the cellist's vibrato.

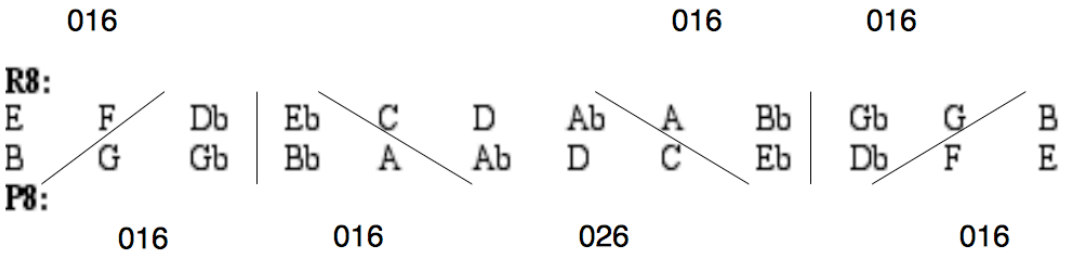


Figure 13: Op. 27/1, opening row forms P8 and R8
Showing 016 and 026 trichords.

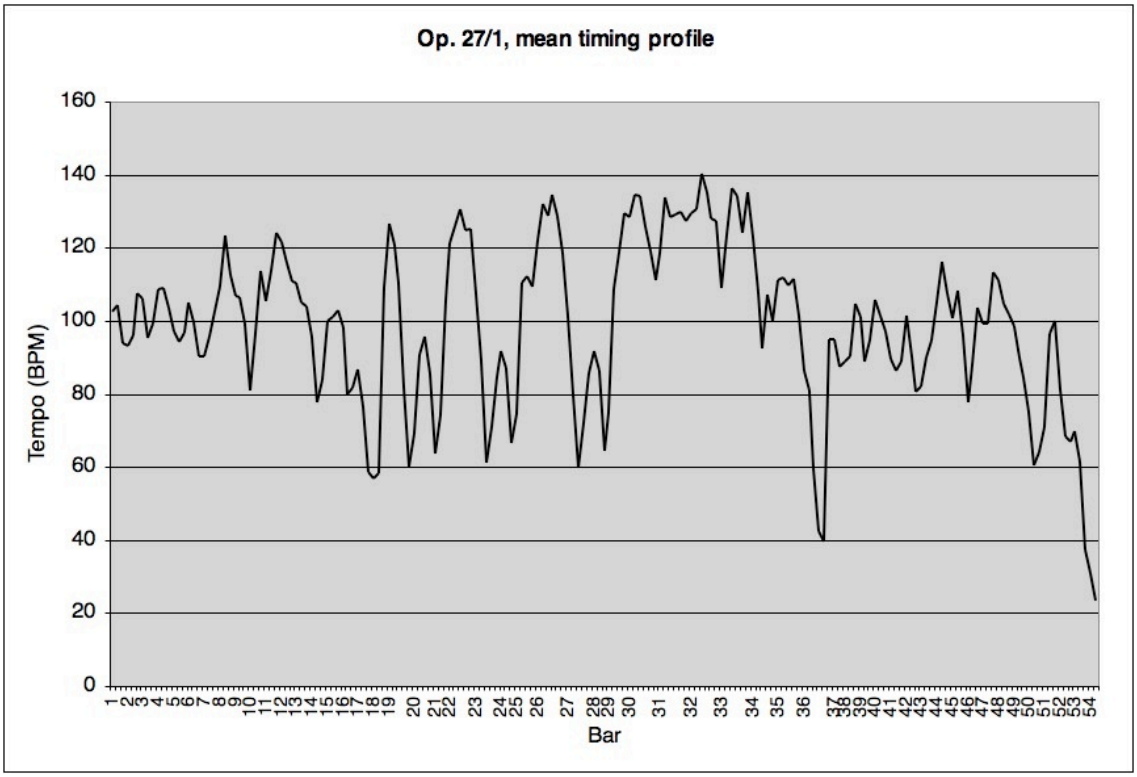


Figure 14: Op. 27/1, mean timing, 51 recordings

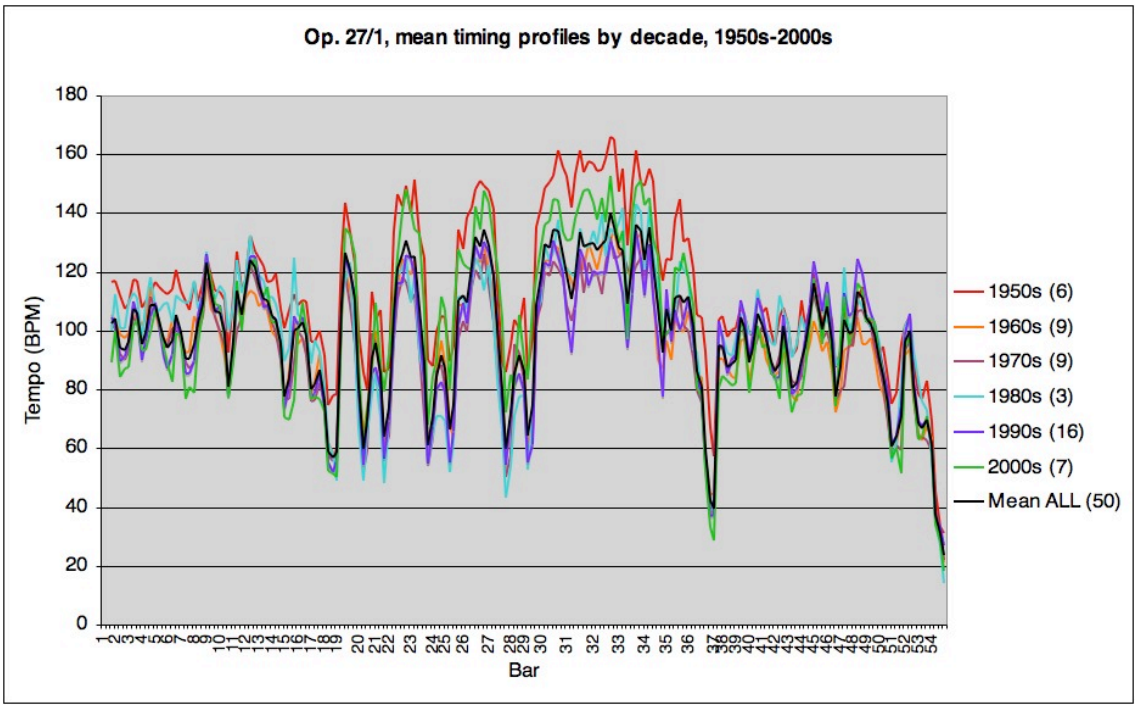


Figure 15: Op. 27/1, mean timing by decade
Peter Stadlen's 1948 recording was excluded.

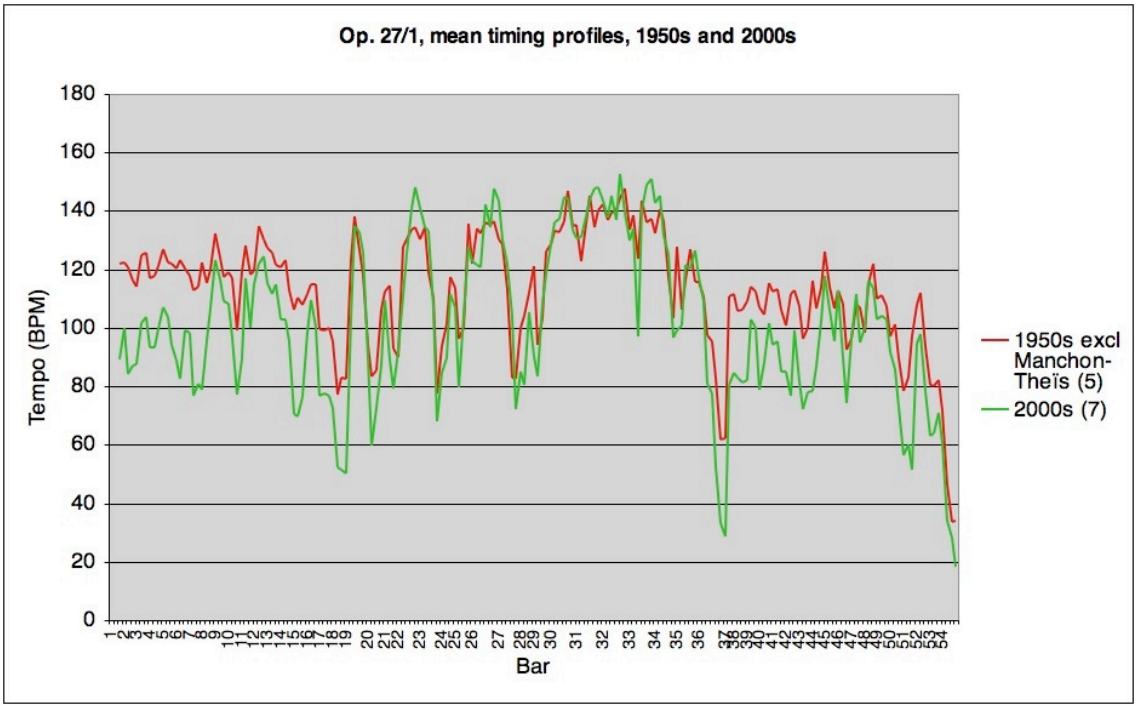


Figure 16: Op. 27/1, mean timing, 1950s vs 2000s
Jeanne Manchon-Theïs's 1954 recording is excluded from the 1950s data.

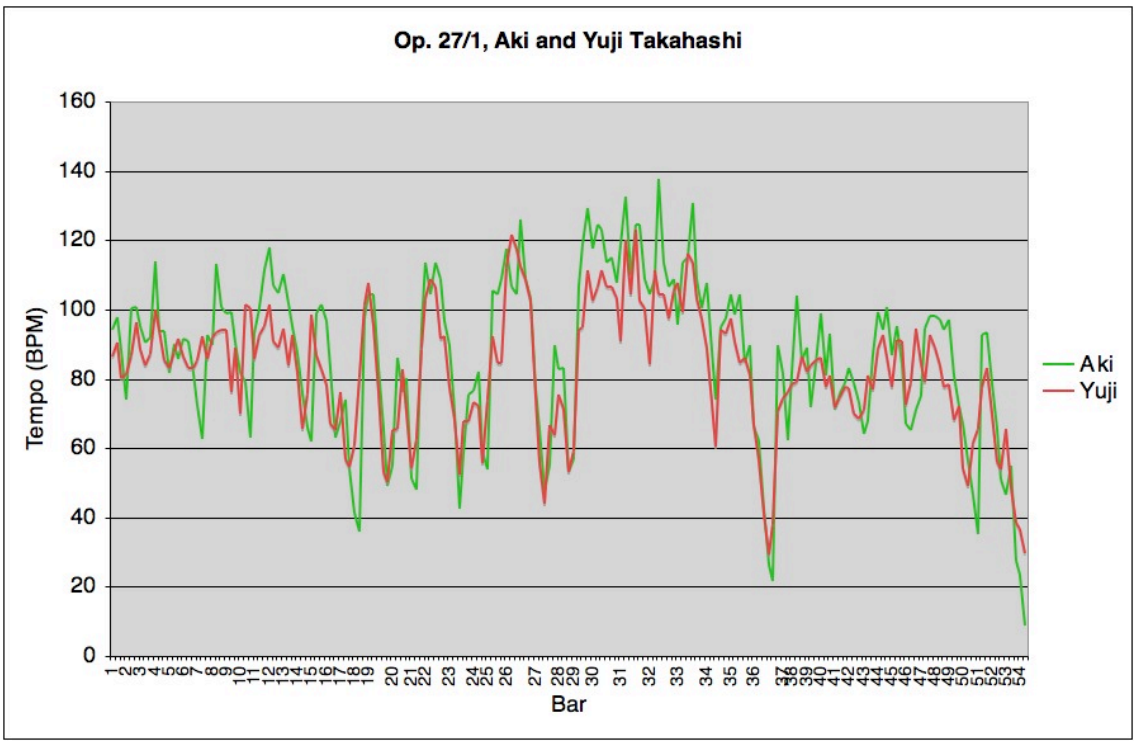


Figure 17: Op. 27/1, timing, Aki Takahashi 1973 vs Yuji Takahashi 1976

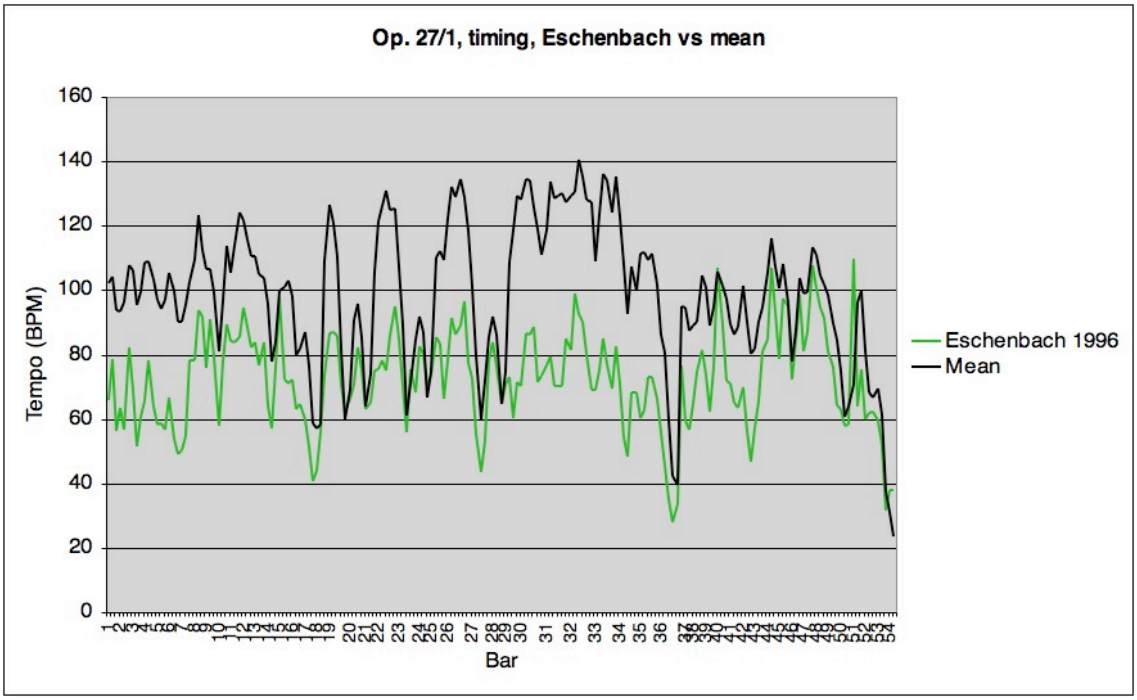


Figure 18a: Op. 27/1, timing, Eschenbach 1996 vs mean

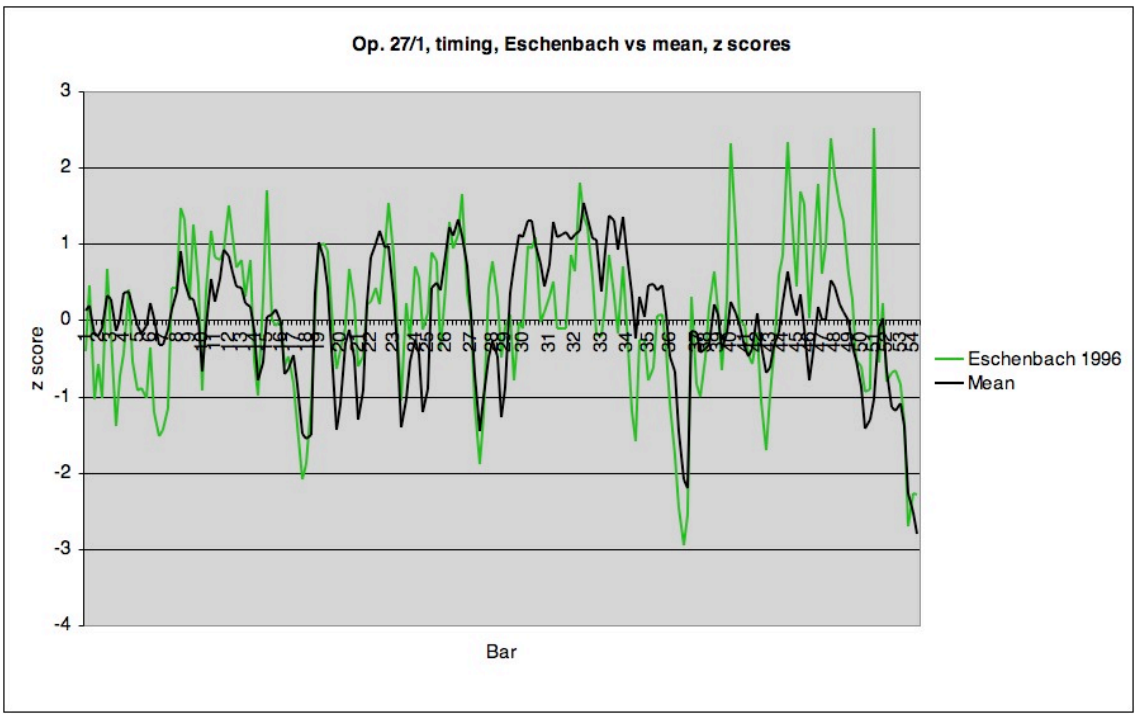


Figure 18b: Op. 27/1, timing, Eschenbach 1996 vs mean, z scores

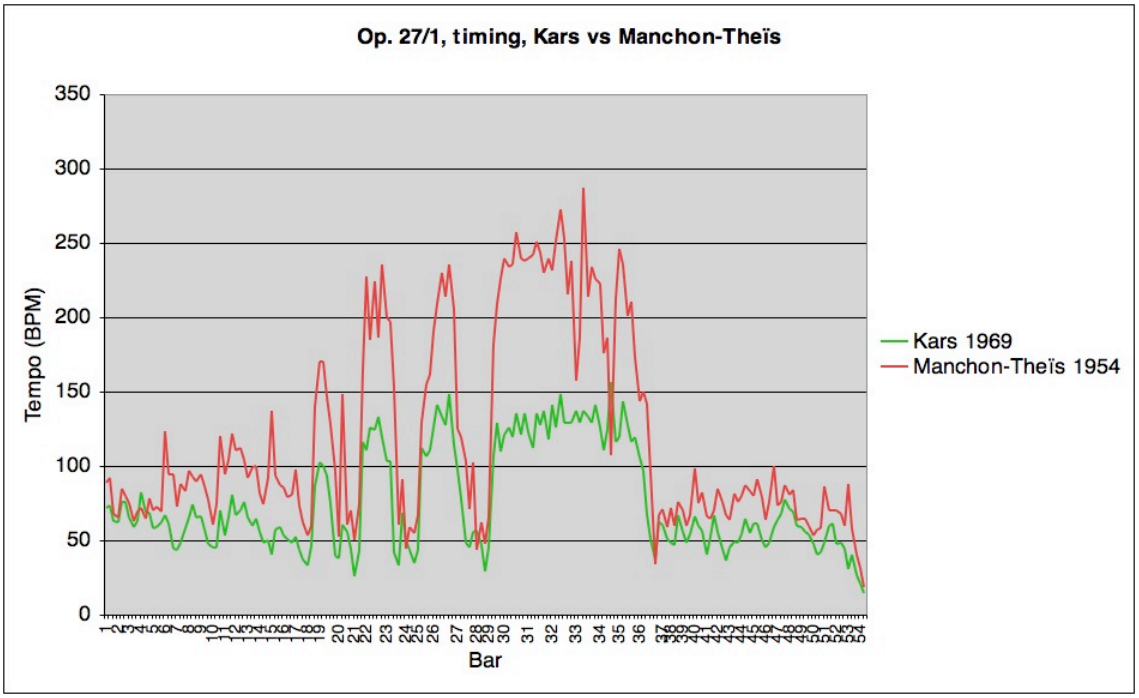


Figure 19a: Op. 27/1, timing, Kars 1969 vs Manchon-Theïs 1954

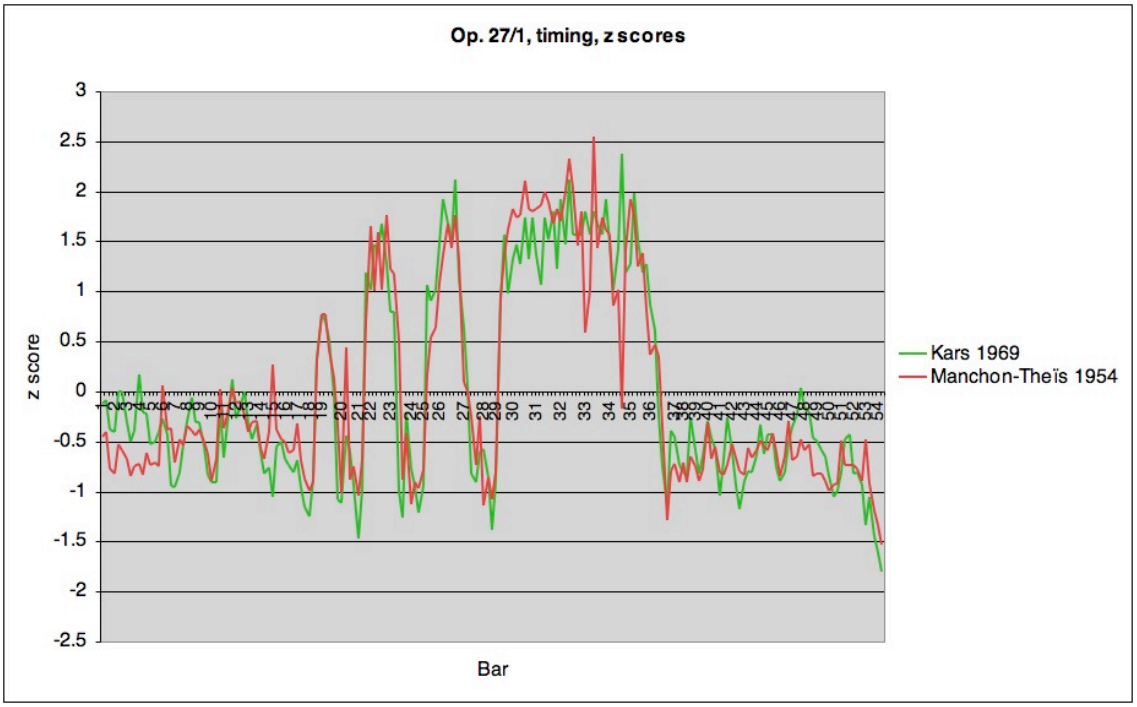


Figure 19b: Op. 27/1, timing, Kars 1969 vs Manchon-Theïs 1954, z scores

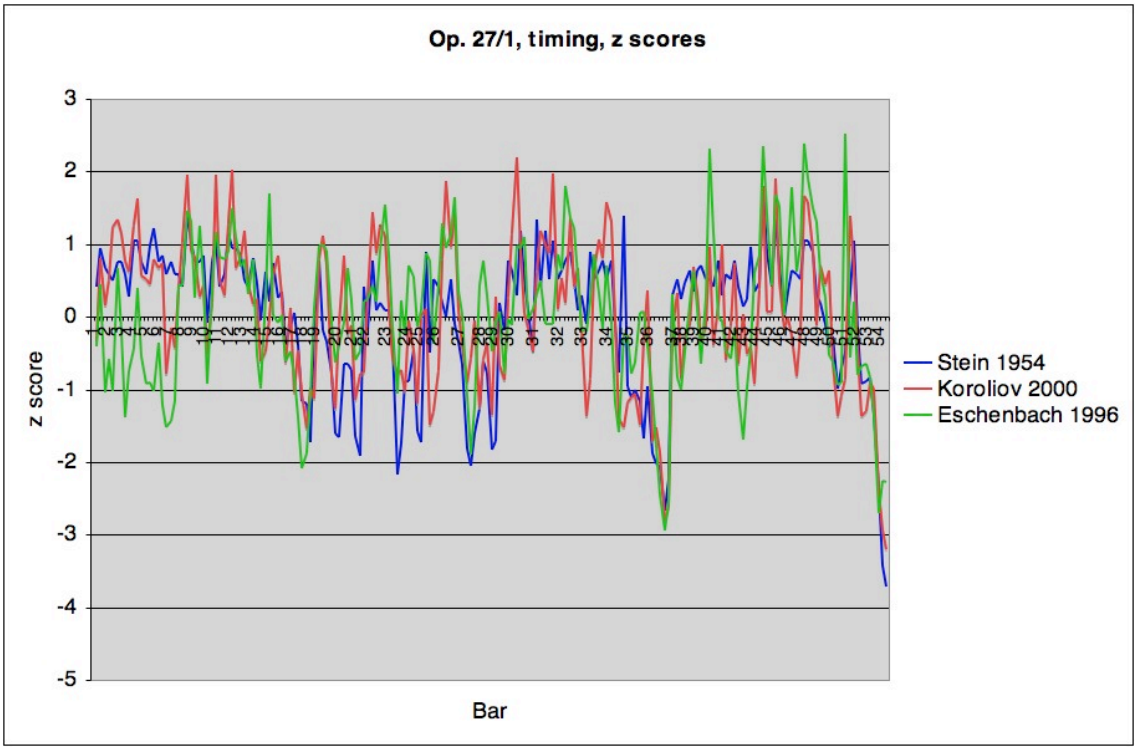


Figure 20: Op. 27/1, timing, z scores, Stein 1954, Koroliov 2000, Eschenbach 1996

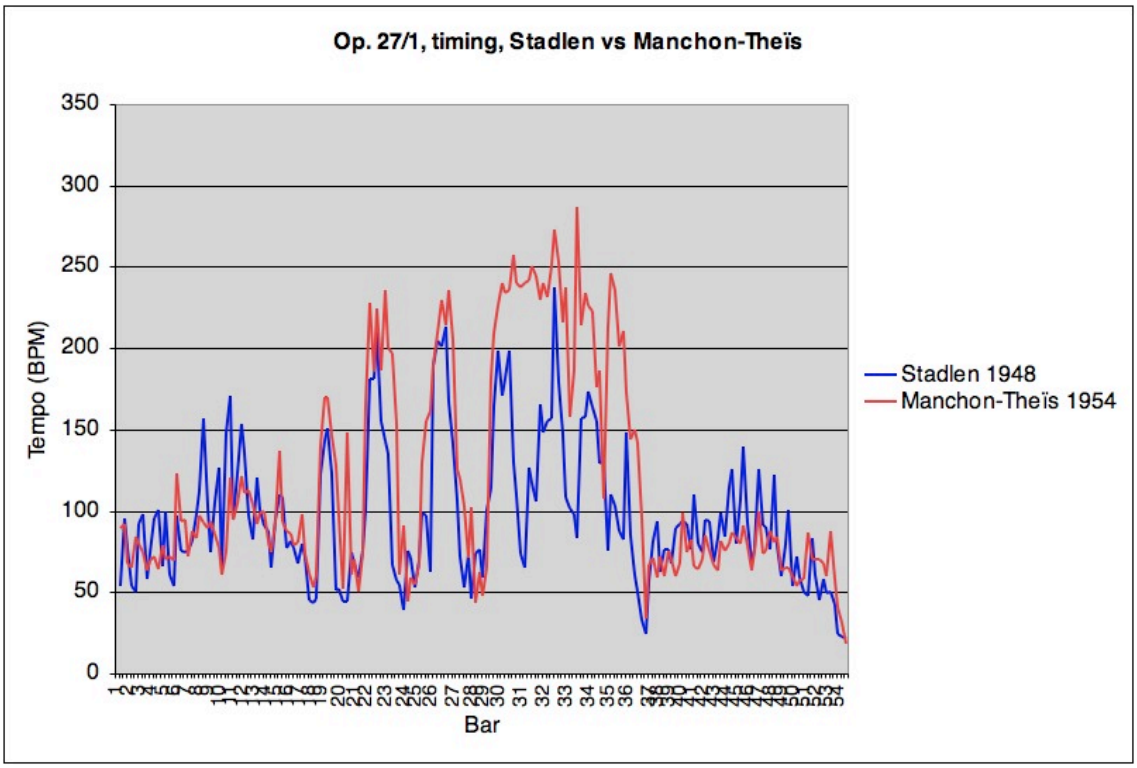


Figure 21a: Op. 27/1, timing, Stadlen 1948 vs Manchon-Theïs 1954

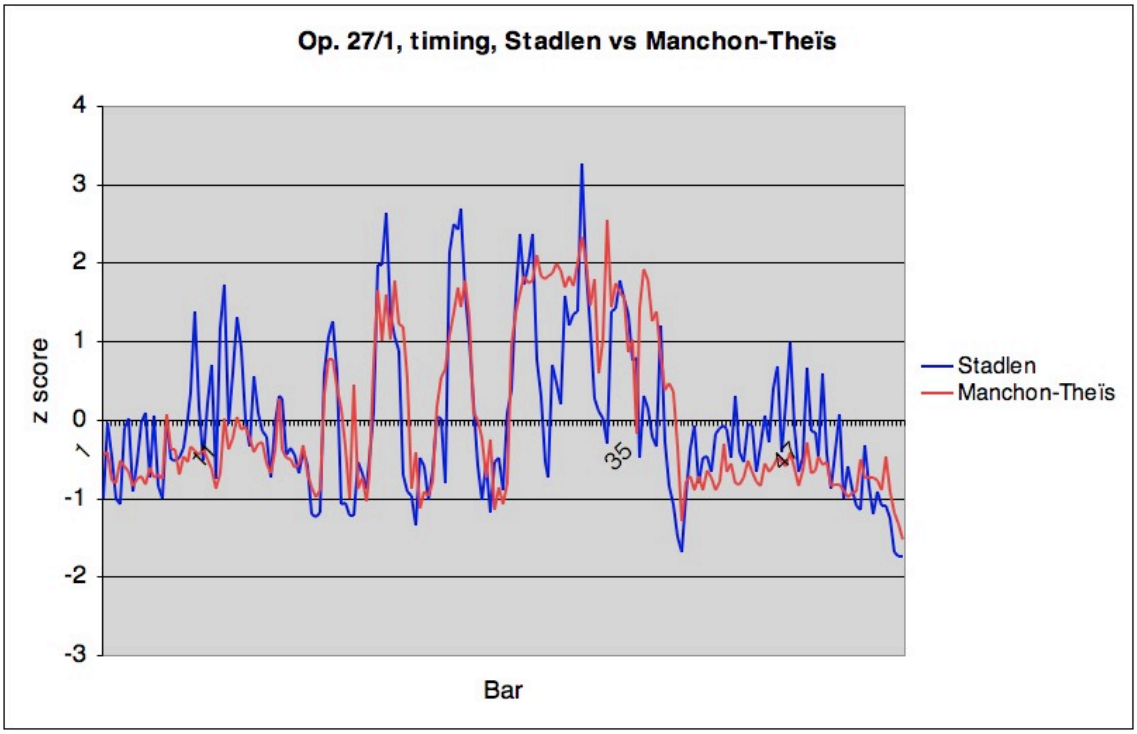


Figure 21b: Op. 27/1, timing z scores, Stadlen 1948 vs Manchon-Theïs 1954

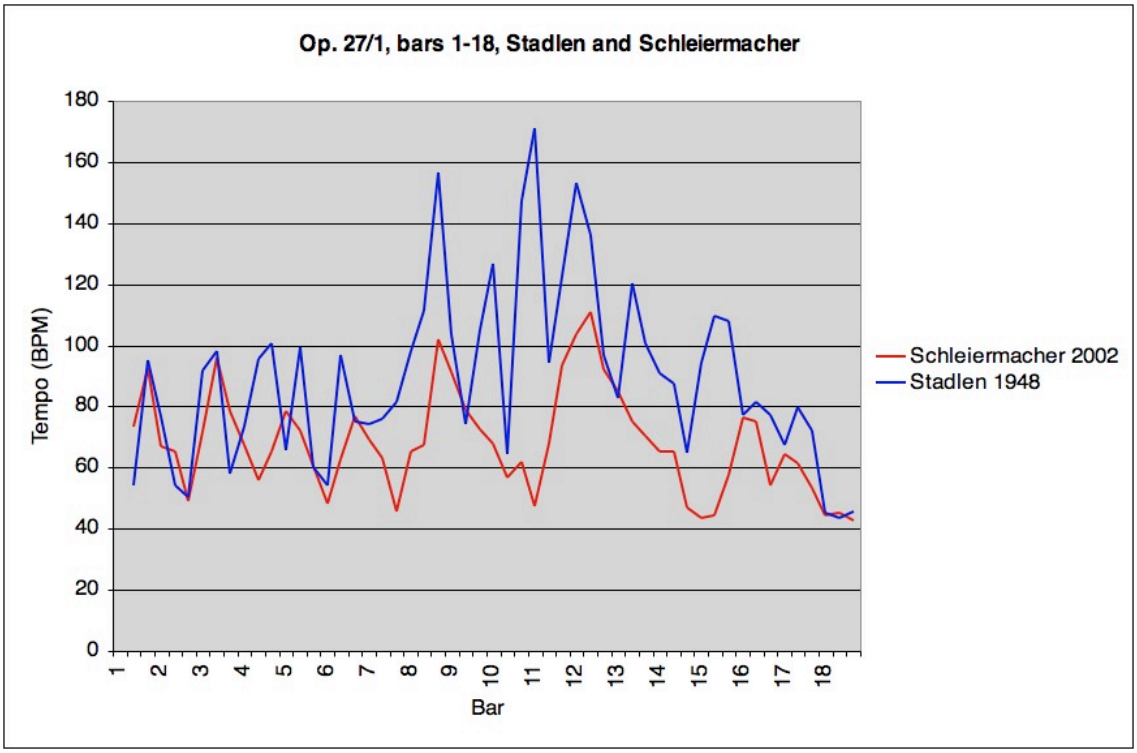


Figure 22: Op. 27/1, bars 1-18, timing, Stadlen 1948 vs Schleiermacher 2002

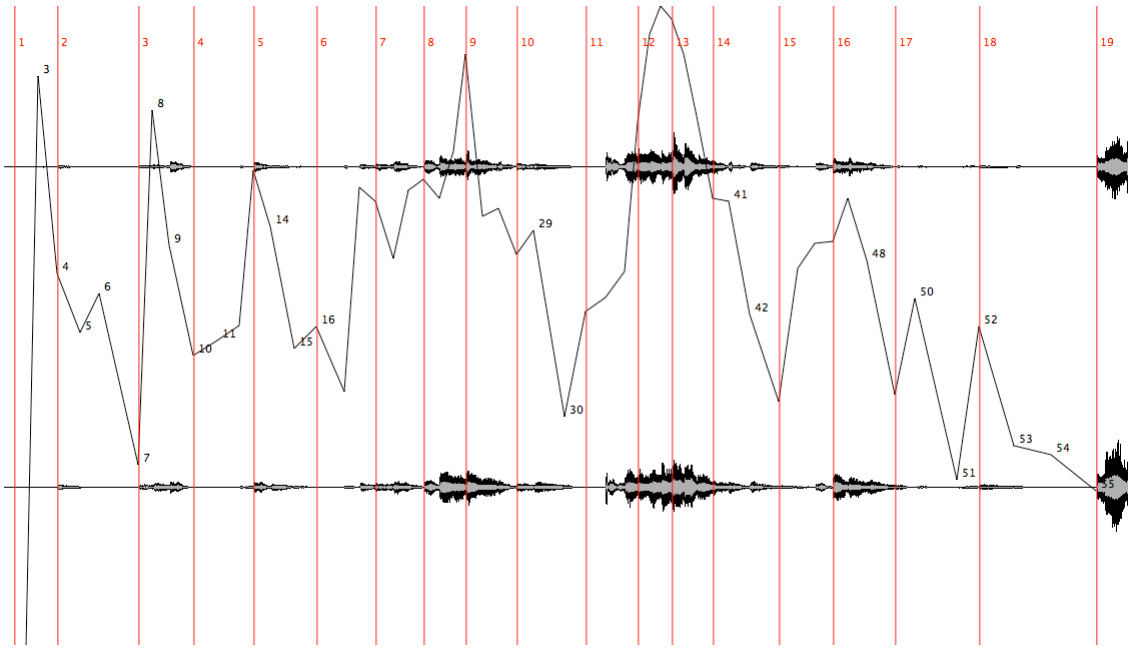


Figure 23: Op. 27/1, bars 1-18, timing and metre, Zimerman 1995
Sonic Visualiser screenshot. The timing curve starts from zero for the first beat because this was not counted in the timing data. The barlines (in red) added afterwards. The first barline is subjective, since the first beat is silent.

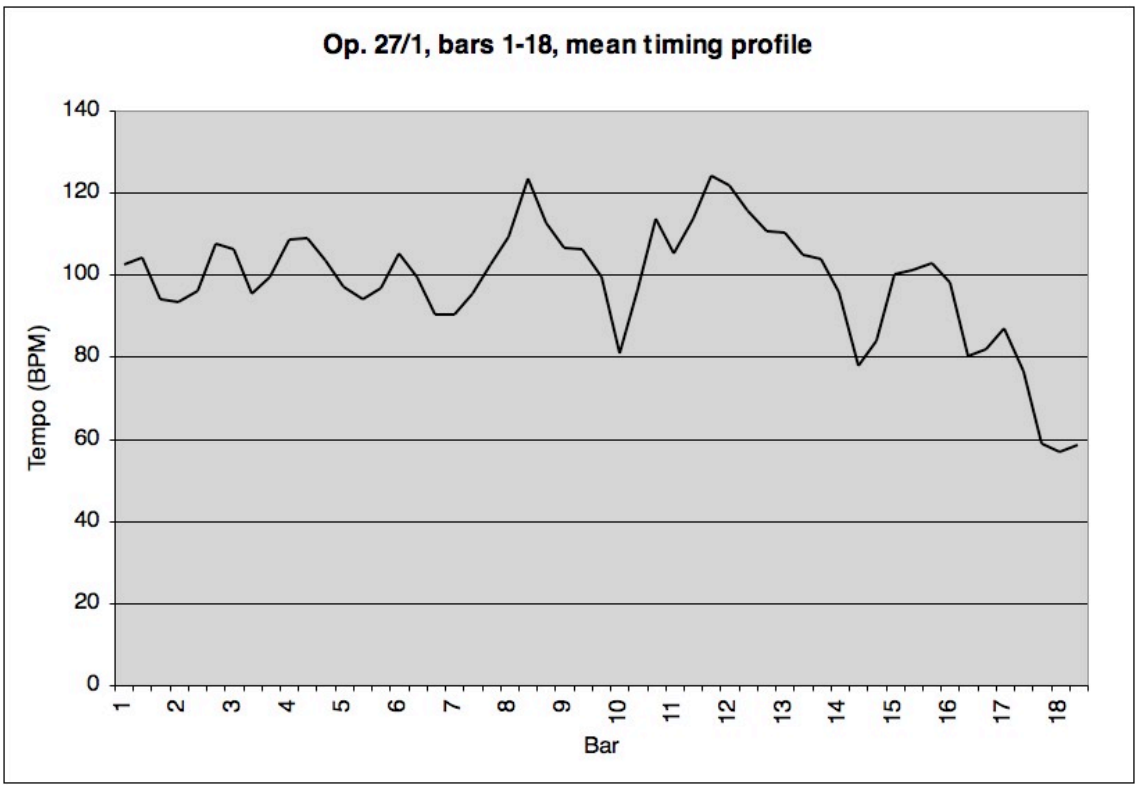


Figure 24: Op. 27/1, bars 1-18, timing, mean profile

Appendix B: Tables

Category	Opus numbers	df	R^2 (adjusted)	*p*
All	1-31 plus 5 (orchestral)	926	.11	<.001***
All vocal	2-4, 8, 12-19, 23, 25-26, 29, 31	293	.40	<.001***
All instrumental	1, 4-7, 9-11, 20-22, 24, 27-28, 30	631	.03	<.001***
Solo vocal	3-4, 8, 12-18, 23, 25	235	.41	<.001***
Choral	2, 19, 26, 29, 31	56	.39	<.001***
Orchestral	1, 5 (orchestral), 6, 10, 21, 24, 30	203	.08	<.001***
Chamber/duet	5, 7, 9, 11, 20, 22, 28	279	-.002	.49
Solo piano	27	145	.05	<.01**

Table 1a: Slowing trend by instrumentation of work
The results of linear regressions plotting year of performance against percentage deviation from the mean work duration for each work category. A significant slowing trend can be seen in every category except the chamber/duet works.

Category	Opus numbers	df	R^2 (adjusted)	*p*
Early	1-11	437	.06	<.001***
Middle	12-19	154	.39	<.001***
Late	20-31	331	.08	<.001***

Table 1b: Slowing trend by date of work
The results of linear regressions for early, middle, and late works, showing slowing trends in all categories.

Ensemble name	Recording year	Ensemble country of residence
Alban Berg Quartett	1975	Austria
Arditti Quartet	1990	UK
Artis Quartett	1991	Austria
Artis Quartett	1999	Austria
Brindisi Quartet	1994	UK
Craft ensemble*	1954	USA
Emerson Quartet	1992	USA
Quartetto Italiano	1970	Italy
Juilliard Quartet	1952	USA
Juilliard Quartet	1959	USA
Juilliard Quartet	1970	USA
Kroft Quartet	1983	Czech Republic (then Czechoslovakia)
Kronos Quartet	1993	USA
LaSalle Quartet	1969	USA
Neues Leipziger Streichquartett	1996	Germany
Leoplder Quartett	1993	Germany
Quartetto di Milano	1963	Italy
Quatuor Parisii	1991	France
Pro Arte Quartet	1950	USA
Schoenberg Quartet	2000	Netherlands
Smith Quartet	1999	UK

Table 2: Recordings used in the intonation study

*This refers to the recording on the first complete Webern box set, directed by Robert Craft. The musicians – Dorothy Wade, Ward Fenley, Milton Thomas and Emmet Sargeant – did not have an ensemble name. The exact date of this recording is uncertain but it was probably made in 1954, along with the other string quartet recordings.

Bar	Interval no	Interval type	Pitches	Mean size	SD	Average absolute deviation from ET	*p* (difference of mean size from ET)
1	1	Perf 4th	F# – B	497.33	10.59	8.88	.26
1	2	Min 6th	B - G	802.26	10.29	7.83	.32
1-2	3	Maj 7th	G – G#	1101.52	8.68	7.59	.43
2	4	Dim 4th	G# – C	399.78	10.93	8.73	.93
2	5	Min 6th	C – E	802.75	15.22	11.68	.41
2-3	6	Min 3rd	E – C#	300.48	12.74	10.19	.87
3	7	Min 3rd	C# - E	305.93	13.02	10.30	.05*
3	8	Min 3rd	E – C #	305.14	13.00	11.81	.09†
3	9	Min 3rd	C# - E	304.60	14.01	11.50	.16
3-4	10	Min 3rd	E – C #	301.52	12.63	8.94	.60
4	11	Min 3rd	C# - E	305.26	10.10	8.42	.03*
4	12	Min 3rd	E – C #	304.20	10.98	8.85	.09†
				Mean	**11.85**	**9.56**	
				Mean solo	**11.14**	**8.94**	
				Mean accomp	**12.35**	**9.94**	

Table 3: Melodic interval size, Op. 5 no. 5, bars 1-4, cello

Interval type	No. in passage	No. of interval readings	Average deviation ET	Average absolute deviation ET	Average deviation JI	Average absolute deviation JI
Minor third	7	145	3.89	10.00	-11.75	14.56
Minor sixth	2	42	2.50	9.75	-11.19	14.59

Table 4: Thirds and sixths, ET vs JI, Op. 5 no. 5, melodic analysis, cello

Quartet	Year	Average deviation ET	Average absolute deviation ET
Leopolder	1993	-0.47	5.07
Neues Leipziger	1994	4.41	5.21
Parisii	1991	1.71	5.72
Emerson	1992	-4.14	5.86
Kroft	1983	1.66	5.93
Juilliard	1970	1.34	7.20
Juilliard	1959	-3.85	7.54
Brindisi	1994	-2.80	7.61
Craft ensemble	1954	6.66	8.21
Kronos	1993	-4.48	8.80
Milano	1963	-4.60	9.25
Pro Arte	1950	5.54	9.28
Alban Berg	1975	9.04	9.79
Italiano	1970	6.98	9.93
Arditti	1990	-4.08	10.10
Schoenberg	2000	6.53	10.85
Smith	1999	-0.08	11.13
Juilliard	1952	8.46	11.77
Artis	1991	9.46	13.84
LaSalle	1969	-4.88	15.23
Artis	1999	20.26	22.41
	Mean	**2.51**	**9.56**

Table 5: Deviation from ET by recording, Op. 5 no. 5, all melodic intervals, cello
Ranked by average absolute deviation from ET. Negative numbers in the 'average deviation ET' column denote intervals compressed or narrowed relative to ET, positive numbers stretched or widened intervals.

Interval no	Instruments	Pitches	Interval type	Mean size	SD	Average absolute deviation from ET	p (difference of mean size from ET)
1	V1-V1	D-G	Perf 5th	701.89	8.22	6.03	
2	V1-V2	D-Eb	Maj 7th	1096.78	12.21	10.25	
3	V1-VA	D-Bb	Maj 3rd	1598.26	14.41	12.03	
4	V1-VA	D-E	Min 7th	2203.66	14.13	12.36	
5	V1-VC	D-C#	Semitone	4908.78	16.79	14.88	<.05*
6	V1-V2	G-Eb	Maj 3rd	394.89	9.14	8.09	<.05*
7	V1-VA	G-Bb	Maj 6th	896.37	10.32	9.08	
8	V1-VA	G-E	Min 3rd	1501.76	11.41	10.04	
9	V1-VC	G-C#	Dim 5th	4206.89	15.93	13.52	
10	V2-VA	Eb-Bb	Perf 4th	501.48	11.42	8.52	
11	V2-VA	Eb-E	Dim octave	1106.88	11.93	11.57	<.05*
12	V1-VC	Eb-C#	Dim 3rd	3812.00	16.35	16.57	<.01**
13	VA-VA	Bb-E	Dim 5th	605.39	8.79	8.10	<.05*
14	VA-VC	Bb-C#	Dim 7th	3310.52	18.81	17.47	<.05*
15	VA-VC	E-C#	Min 3rd	2705.12	17.35	13.96	
16	V1-V1	Bb-Eb	Perf 5th	697.56	11.48	8.25	
17	V1-V2	Bb-B	Dim octave	1098.73	14.34	10.90	
18	V1-VA	Bb-F#	Dim 4th	1599.25	13.33	8.86	
19	V1-VA	Bb-C	Min 7th	2200.29	15.08	12.18	
20	V1-VC	Bb-C#	Dim 7th	4504.48	20.28	16.95	
21	V1-V2	Eb-B	Dim 4th	401.18	10.35	8.80	
22	V1-VA	Eb-F#	Dim 7th	901.70	13.47	11.04	
23	V1-VA	Eb-C	Min 3rd	1502.74	13.80	12.05	
24	V1-VC	Eb-C#	Dim 3rd	3806.92	15.62	13.53	
25	V2-VA	B-F#	Perf 4th	500.52	13.88	10.33	
26	V2-VA	B-C	Maj 7th	1101.56	14.45	11.79	
27	V1-VC	B-C#	Min 7th	3405.75	14.91	14.02	
28	VA-VA	F#-C	Aug 4th	601.04	12.18	9.28	
29	VA-VC	F#-C#	Perf 4th	2905.23	18.63	15.73	
30	VA-VC	C-C#	Dim octave	2304.19	20.47	15.98	
31	V1-V2	C-E	Min 6th	799.37	14.69	10.96	
32	V1-VA	C-Db	Maj 7th	1100.32	16.97	12.24	
33	V1-V2	C-A	Min 3rd	1498.06	16.23	13.11	
34	V1-VA	C-Eb	Maj 6th	2101.77	19.65	14.41	
35	V1-VC	C-C#	Dim octave	4703.32	16.07	13.66	
36	V2-VA	E-Db	Aug 2nd	301.09	11.54	9.42	
37	V2-V2	E-A	Perf 5th	698.69	6.39	4.64	
38	V2-VA	E-Eb	Aug octave	1302.40	15.00	10.87	
39	V2-VC	E-C#	Min 3rd	3903.95	16.54	12.81	
40	VA-V2	Db-A	Dim 4th	396.75	12.86	10.04	
41	VA-VA	Db-Eb	Min 7th	1001.42	14.53	10.92	
42	VA-VC	Db-C#	enh octave	3603.24	16.57	14.43	
43	V2-VA	A-Eb	Aug 4th	603.71	14.71	11.82	
44	V2-VC	A-C#	Min 6th	3205.26	16.00	13.04	

45	VA-VC	Eb-C#	Dim 3rd	2601.55	22.19	17.04	
46	V1-V2	G-B	Min 6th	796.44	9.51	8.35	
47	V1-VA	G-Ab	Maj 7th	1100.72	12.84	9.70	
48	V1-V2	G-E	Min 3rd	1500.15	11.24	8.15	
49	V1-VA	G-Bb	Maj 6th	2100.99	14.27	11.44	
50	V1-VC	G-C#	Dim 5th	4201.00	13.03	9.62	
51	V2-VA	B-Ab	Aug 2nd	304.28	14.34	11.53	
52	V2-V2	B-E	Perf 5th	703.71	9.59	7.62	
53	V2-VA	B-Bb	Aug octave	1304.55	14.37	11.97	
54	V2-VC	B-C#	Min 7th	3404.56	13.30	11.36	
55	VA-V2	Ab-E	Dim 4th	399.43	13.70	9.62	
56	VA-VA	Ab-Bb	Min 7th	1000.26	10.14	7.01	
57	VA-VC	Ab-C#	Dim 6th	3100.28	15.63	12.98	
58	V2-VA	E-Bb	Aug 4th	600.84	13.09	9.52	
59	V2-VC	E-C#	Min 3rd	2700.85	13.32	11.63	
60	VA-VC	Bb-C#	Dim 7th	2100.02	17.54	14.75	
61	V1-VC	D-E	Min 7th	4602.85	17.21	13.11	
62	V1-VC	G-E	Min 3rd	3900.96	15.41	11.53	
63	V2-VC	Eb-E	Dim octave	3506.07	14.69	12.38	.07†
64	VA-VC	Bb-E	Dim 5th	3004.59	14.62	11.91	
65	VA-VC	E-E	octave	2399.20	12.02	10.04	
66	V1-VC	Bb-E	Dim 5th	4199.94	19.92	15.26	
67	V1-VC	Eb-E	Dim octave	3502.39	12.70	10.71	
68	V2-VC	B-E	Perf 5th	3101.21	15.25	13.36	
69	VA-VC	F#-E	Maj 2nd	2600.69	17.03	11.87	
70	VA-VC	C-E	Min 6th	1999.65	16.51	12.37	
71	V1-VC	C-E	Min 6th	4398.06	15.49	12.16	
72	V2-VC	E-E	octave	3598.69	16.17	11.25	
73	VA-VC	Db-E	Dim 7th	3298.42	15.33	10.80	
74	V2-VC	A-E	Perf 4th	2900.00	16.37	12.55	
75	VA-VC	Eb-E	Dim octave	2296.30	20.28	16.51	
				Mean	**14.46**	**11.63**	

Table 6: Mean harmonic interval sizes, all performances, Op. 5 no. 5, bars 3-4
The higher instrument or pitch is given first in Instruments and Pitches, so all intervals should be read as descending from left to right. In the Interval type column, a distinction was made between enharmonic but differently spelled intervals (e.g. maj 3^{rd} vs dim 4^{th}). The right column states whether the mean interval size differs significantly from equal temperament according to a Welch's two-sample *t*-test.

Quartet	Year	Average deviation from ET	Average absolute deviation from ET
Brindisi	1994	0.93	7.31
Neues Leipziger	1994	0.06	7.96
Kronos	1993	-4.45	8.43
LaSalle	1969	-2.48	8.62
Alban Berg	1975	0.82	9.02
Parisii	1991	4.20	9.77
Craft ensemble	1954	1.74	10.37
Milano	1963	-0.50	10.61
Juilliard	1951	6.38	11.41
Arditti	1990	7.91	11.46
Juilliard	1970	1.62	11.92
Italiano	1970	6.06	11.99
Leopolder	1993	3.28	12.63
Artis	1999	1.95	12.66
Smith	1999	6.20	12.86
Juilliard	1959	1.19	12.88
Schoenberg	2000	-3.93	13.04
Emerson	1992	-3.17	13.12
Artis	1991	8.83	13.39
Kroft	1983	13.01	15.82
Pro Arte	1950	-13.58	19.02
	Mean	**1.72**	**11.63**

Table 7: Deviation from ET by recording, Op. 5 no. 5, bars 3-4, all harmonic intervals,
Ranked by average absolute deviation from ET.

Interval type	No. in passage	No. of interval readings	Mean distance ET	Absolute distance ET	Mean distance JI	Absolute distance JI
Minor third	8	168	1.70	11.66	-13.94	16.36
Major third	2	42	-3.43	10.05	10.26	12.08
Minor sixth	5	105	-0.24	11.37	-13.93	17.01
Major sixth	3	63	-0.29	11.64	15.35	17.12

Table 8: Thirds and sixths, ET vs JI, Op. 5 no. 5, bars 1-4, cello melodic intervals

Interval type	Frequency	Mean size	SD	*p* (difference from ET)
Perf 5th	5	700.61	10.66	
Maj 3rd	2	396.57	12.04	.07†
Dim 4th	4	399.21	12.48	
Aug 2nd	2	302.77	13.02	
Aug 4th	3	601.86	13.22	
Maj 7th	4	1099.84	14.02	
Octave	2	1198.94	14.07	
Min 7th	7	1002.70	14.16	.02*
Min 3rd	8	301.70	14.42	
Aug octave	2	103.47	14.55	
Min 6th	5	799.76	14.68	
Dim 5th	5	603.56	14.86	.02*
Perfect 4th	4	501.81	15.17	
Maj 6th	3	899.71	15.18	
Dim 6th	1	700.28	15.63	
Dim octave	7	1102.55	16.16	.06†
Enharmonic octave	1	1203.24	16.57	
Semitone	1	108.78	16.79	.03*
Maj 2nd	1	200.69	17.03	
Dim 7th	5	903.12	17.48	.07†
Dim 3rd	3	206.83	18.50	.005**
Total	**75**	**Mean**	**14.79**	

Table 9: Means and SDs by harmonic interval type, Op. 5 no. 5, bars 3-4
Compound intervals are transposed into single octave, except that intervals of 12, 24 or 36 semitones are described in numbers of octaves rather than as unisons. An enharmonic octave is e.g. C#-D*b*, a diminished octave C#-C (ascending), and an augmented octave C-C# (ascending).

Pianist	Year
Peter Stadlen	1948
Jean-Jacques Monod	1951
Glenn Gould	1954
Jeanne Manchon-Theïs	1954
Leonard Stein	1954
Paul Jacobs	1956
Glenn Gould	1957
Webster Aitken	1961
Yvonne Loriod	1961
Franzpeter Goebels	1964
Glenn Gould	1964
Beveridge Webster	1967
Claude Helffer	1968
Charles Rosen	1969
Jean-Rodolphe Kars	1969
John McCabe	1969
Christian Zacharias	1973
Bruno Mezzena	1973
Idil Biret	1973
Aki Takahashi	1973
Glenn Gould	1974
Andrzej Dutkiewicz	1975
Maurizio Pollini	1976
Yuji Takahashi	1976
Carles Santos	1977
Peter Serkin	1983
Christodoulos Georgiades	1985
Sviatoslav Richter	1989
Alain Neveux	1990
Barry Douglas	1991
Markus Hinterhäuser	1991
Marcel Bratke	1993
Ernst Breidenbach	1994
Patricia Blumröder	1994
Peter Serkin	1994
Krystian Zimerman	1995
Christoph Eschenbach	1996
Emanuele Arciuli	1996
Garrick Ohlsson	1996
Ingrid Karlen	1996
Peter Hill	1996
Piotr Anderszewski	1996
Marcel Worms	1997
Gregorio Nardi	1998
Evgeni Koroliov	2000
Mitsuko Uchida	2000
Roland Pöntinen	2001
Steffen Schleiermacher	2002
Stephen Hough	2006
Benjamin Hochman	2007
Mitsuko Uchida	2009

Table 10: Recordings used in the Op. 27/1 study

Pianist	Year	Mean tempo (BPM)	SD
Eschenbach	1996	72.19	15.26
Goebels	1964	75.00	18.27
Biret	1973	75.14	19.00
Kars	1969	75.80	34.44
Nardi	1998	79.09	21.94
Takahashi Y	1976	82.46	18.34
Aitken	1961	83.22	26.94
Schleiermacher	2002	84.83	36.10
Santos	1977	85.32	23.68
Takahashi A	1973	86.45	23.65
Dutkiewicz	1975	86.62	22.55
Karlen	1996	86.82	22.94
Ohlsson	1996	87.20	19.32
Rosen	1969	87.58	18.95
Hill	1996	89.66	25.31
Richter	1989	91.94	27.40
Worms	1997	93.16	26.06
Uchida	2000	93.94	39.70
Bratke	1993	94.41	20.05
Koroliov	2000	94.49	21.34
Jacobs	1956	95.46	24.62
Pollini	1976	95.55	19.59
Helffer	1968	96.59	26.21
Stadlen	1948	97.09	42.81
Pöntinen	2001	97.55	25.45
Serkin	1994	97.70	28.97
Blumröder	1994	98.19	35.06
Hough	2006	98.40	25.38
Mezzena	1973	99.29	26.14
Zimerman	1995	99.36	32.65
Georgiades	1985	99.69	24.83
Arciuli	1996	99.91	22.86
McCabe	1969	101.45	22.69
Neveux	1990	101.59	19.52
Webster	1967	101.80	25.28
Breidenbach	1994	102.93	26.38
Anderszewski	1996	103.02	31.02
Hinterhäuser	1991	106.72	32.40
Serkin	1983	108.40	27.70
Stein	1954	110.28	24.67
Hochman	2007	110.38	24.27
Monod	1951	112.20	20.60
Loriod	1961	114.98	27.83
Zacharias	1972	116.28	39.80
Gould	1954	116.88	21.99
Gould	1974	117.80	27.21
Manchon-Theïs	1954	119.21	66.37
Gould	1964	121.48	28.47
Uchida	2009	127.98	50.01
Douglas	1991	130.11	39.99
Gould	1957	130.39	26.33

Table 11: Recordings of Op. 27/1, mean tempo and standard deviation in timing

Singer	Year	Released	Instrumentalists	Conductor
Grace-Lynne Martin	1954	1957	Hollywood studio musicians	Robert Craft
Heather Harper	1967	1978	Unidentified instrumental ensemble	Pierre Boulez
Dorothy Dorow	1986	1989	Schönberg Ensemble	Reinbert de Leeuw
Françoise Pollet	1992	2000	Ensemble Intercontemporain	Pierre Boulez
Claudia Barainsky	1994	1995	Axel Bauni (piano)	-
Tony Arnold	2008	2009	Twentieth Century Classics Ensemble	Robert Craft

Table 12: Recordings used in the Op. 14 study

Singer	Song	Ascending	Descending	Total
Grace-Lynne Martin	Die Sonne	3	5	8
	Abendland I	2	4	6
	Abendland II	0	4	4
	Abendland III	5	0	5
	Nachts	1	3	4
	Gesang…	1	4	5
	TOTAL	**12**	**20**	**32**
Heather Harper	Die Sonne	6	9	15
	Abendland I	2	11	13
	Abendland II	1	6	7
	Abendland III	2	2	4
	Nachts	1	2	3
	Gesang…	3	6	9
	TOTAL	**15**	**36**	**51**
Dorothy Dorow	Die Sonne	11	4	15
	Abendland I	5	5	10
	Abendland II	2	8	10
	Abendland III	8	5	13
	Nachts	5	3	8
	Gesang…	3	6	9
	TOTAL	**34**	**31**	**65**
Françoise Pollet	Die Sonne	3	2	5
	Abendland I	0	5	5
	Abendland II	0	2	2
	Abendland III	0	1	1
	Nachts	0	1	1
	Gesang…	0	1	1
	TOTAL	**3**	**12**	**15**
Claudia Barainsky	Die Sonne	0	5	5
	Abendland I	1	12	13
	Abendland II	0	4	4
	Abendland III	0	1	1
	Nachts	0	2	2
	Gesang…	1	6	7
	TOTAL	**2**	**30**	**32**
Tony Arnold	Die Sonne	3	4	7
	Abendland I	1	2	3
	Abendland II	0	2	2
	Abendland III	1	1	2
	Nachts	1	1	2
	Gesang…	2	4	6
	TOTAL	**8**	**14**	**22**

Table 13: Op. 14 Trakl songs, pitch slides by singer and song

Singer	Year	Asc	Desc	Total	R	N	M	L	Swoop
Grace-Lynne Martin	1954	12	20	32	5	8	3	1	10
Heather Harper	1967	15	36	51	7	5	1	6	8
Dorothy Dorow	1986	34	31	65	9	9	1	2	20
Françoise Pollet	1992	3	12	15	4	6	0	1	2
Claudia Barainsky	1994	2	30	32	5	13	1	3	2
Tony Arnold	2009	8	14	22	2	7	2	5	6
TOTAL		**74**	**143**	**217**	**32**	**48**	**8**	**18**	**48**

Table 14: Op. 14 Trakl songs, ascending and descending pitch slides, slides on voiced consonants R, N, M or L and swoops

Context	Number of swoops	% of total
Registral peak of phrase	27	56
First beat of bar	28	58
Noun	25	52
First syllable of word	44	92
Ascending	41	85
Leap > whole tone	37	77
Stressed syllable	41	85
First or last note of phrase	13	27
TOTAL	48	100

Table 15: Op. 14 Trakl songs, swoops by musical or textual context

No. of recordings	Singers	Total port	Song	Bar	Text	Translation
6	all	9	Die Sonne	17-18	Langsam reift die Traube	Slowly ripen grape and grain
5	GLM, HH, DD, CB, TA	15	Die Sonne	23-24	hebt der Wanderer leise die schweren Lider	The wanderer gently lifts his heavy lids
5	HH, DD, FP, CB, TA	12	Abendland I	7-8	Silbern weint ein Krankes	Silver a sick thing weeps
5	GLM, HH, DD, FP, CB	10	Abendland I	23-25	[Zakkige Blitze] erhellen die Schläfe die immerkuhle	[Jagged lightning] illuminates his temples, perpetually cool
5	GLM, HH, DD, CB, TA	10	Gesang	4-5	umschweben das Antlitz	suspended around the face
3	DD, FP, TA	5	Abendland II	6-7	an verfallner Mauer	on a crumbling/fallen-down wall
3	HH, DD, FP	5	Abendland III	14-15	Ihr sterbenden Völker!	Ye dying peoples!

Table 16: Op. 14 Trakl songs, passages with the most portamenti

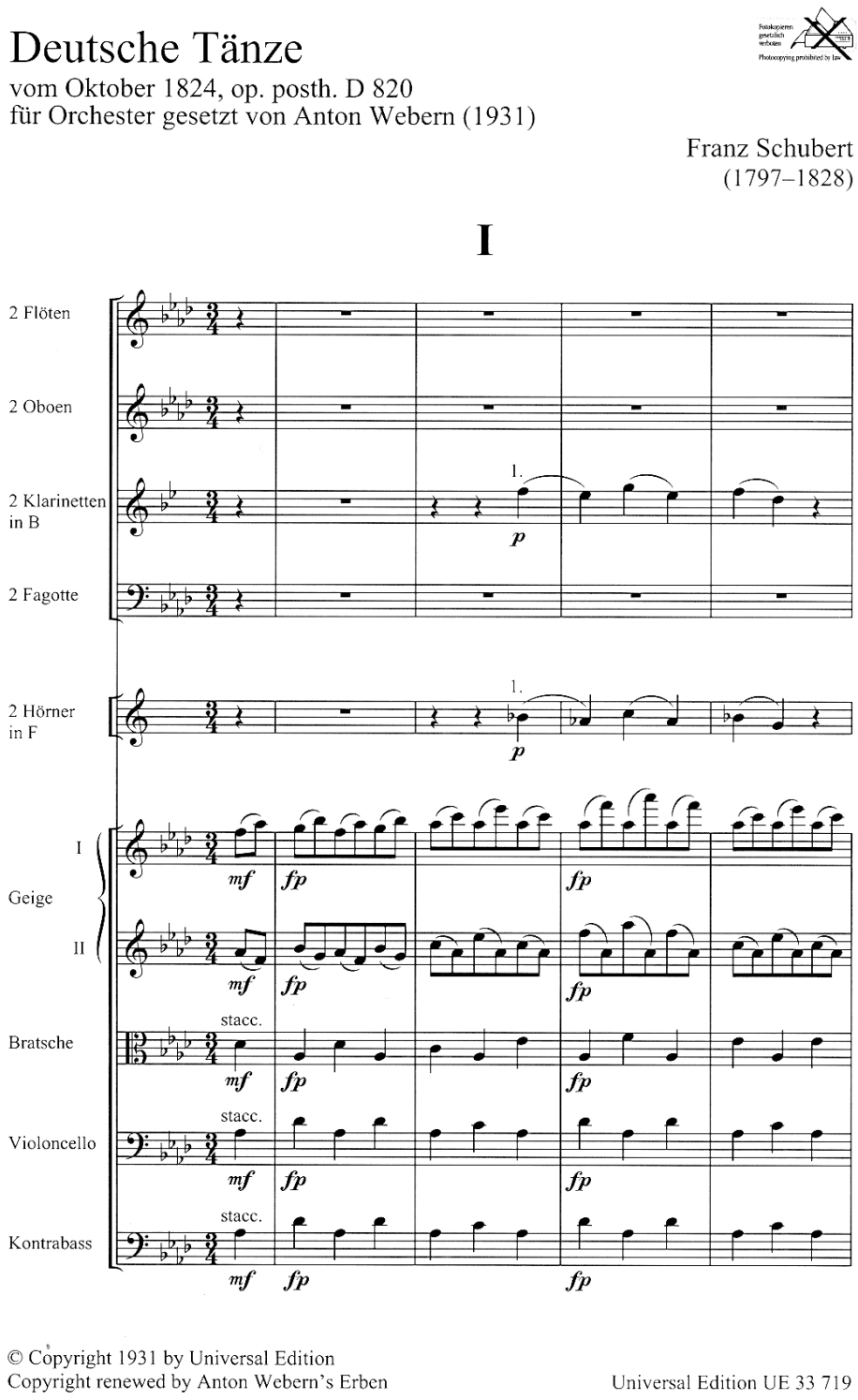
No of recordings	Singer initials	Song	Bar	Text	Translation
5	GLM, HH, DD, CB, TA	Die Sonne	15	Unter dem runden Himmel fährt der Fischer lei-se	Under the round heavens sails the fisherman softly
5	GLM, HH, DD, CB, TA	Die Sonne	23	hebt der Wanderer lei-se	The wanderer gently lifts
4	GLM, HH, DD, FP (subtle)	Abendland II	2	So lei-se sind die grünen Wälder unsrer Heimat	So quiet are the green forests of our homeland
2	HH, DD	Abendland II	26	So lei-se schließt ein mondener Strahl	Thus quietly a moonbeam closes
2	HH, DD	Gesang	12	So lei-se blutet Demut	So quietly bleeds meekness

Table 17: Op. 14, individual syllable pairs with the most portamenti

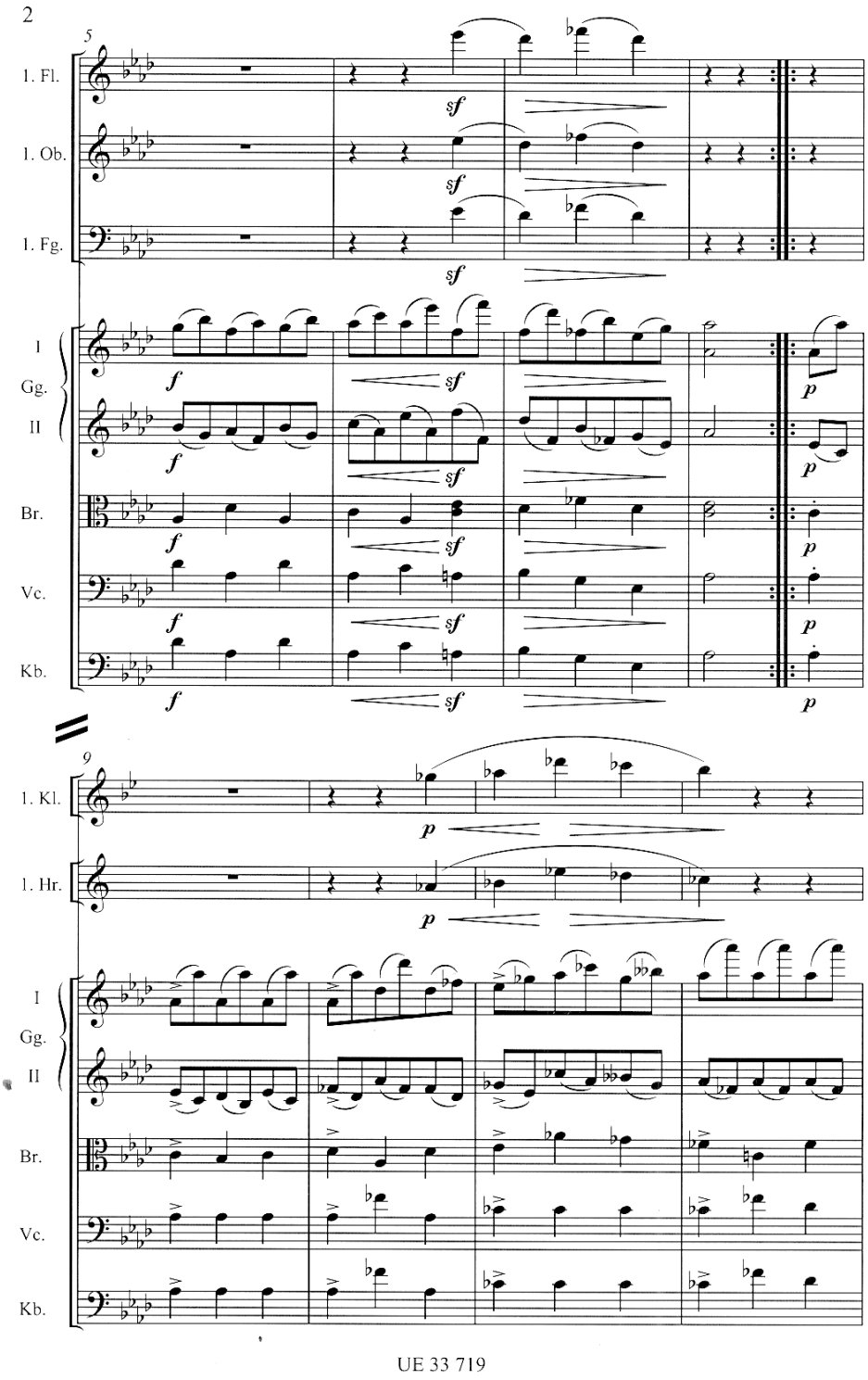
No. of recordings	Singer initials	Song	Bar	Asc/desc	Syllables
6	All (all v subtle)	Nachts	3	Desc	Au-gen
5	HH, DD, FP, CB, TA (swoops)	Die Sonne	5	Asc (swoop)	-Wald
5	GLM, HH, DD, CB, TA	Die Sonne	15	Desc	lei-se
5	GLM, HH, DD, CB, TA	Die Sonne	23	Desc	lei-se
5	HH, DD, FP, CB (swoop), TA	Abendland I	7-8	Desc	bern-weint
5	GLM, HH, DD, CB, TA	Gesang…	4	Desc	ben-das
4	GLM, HH, FP, CB (strong)	Die Sonne	17	Desc	Lang-sam
4	GLM, DD, FP, CB	Abendland I	26	Desc	nen-den
4	GLM, HH, DD, FP (subtle)	Abendland II	2	Desc	lei-se
4	GLM, HH, DD, CB, TA	Gesang…	15	Desc	hen-den

Table 18: Op. 14, the 'leise' performance leitmotif

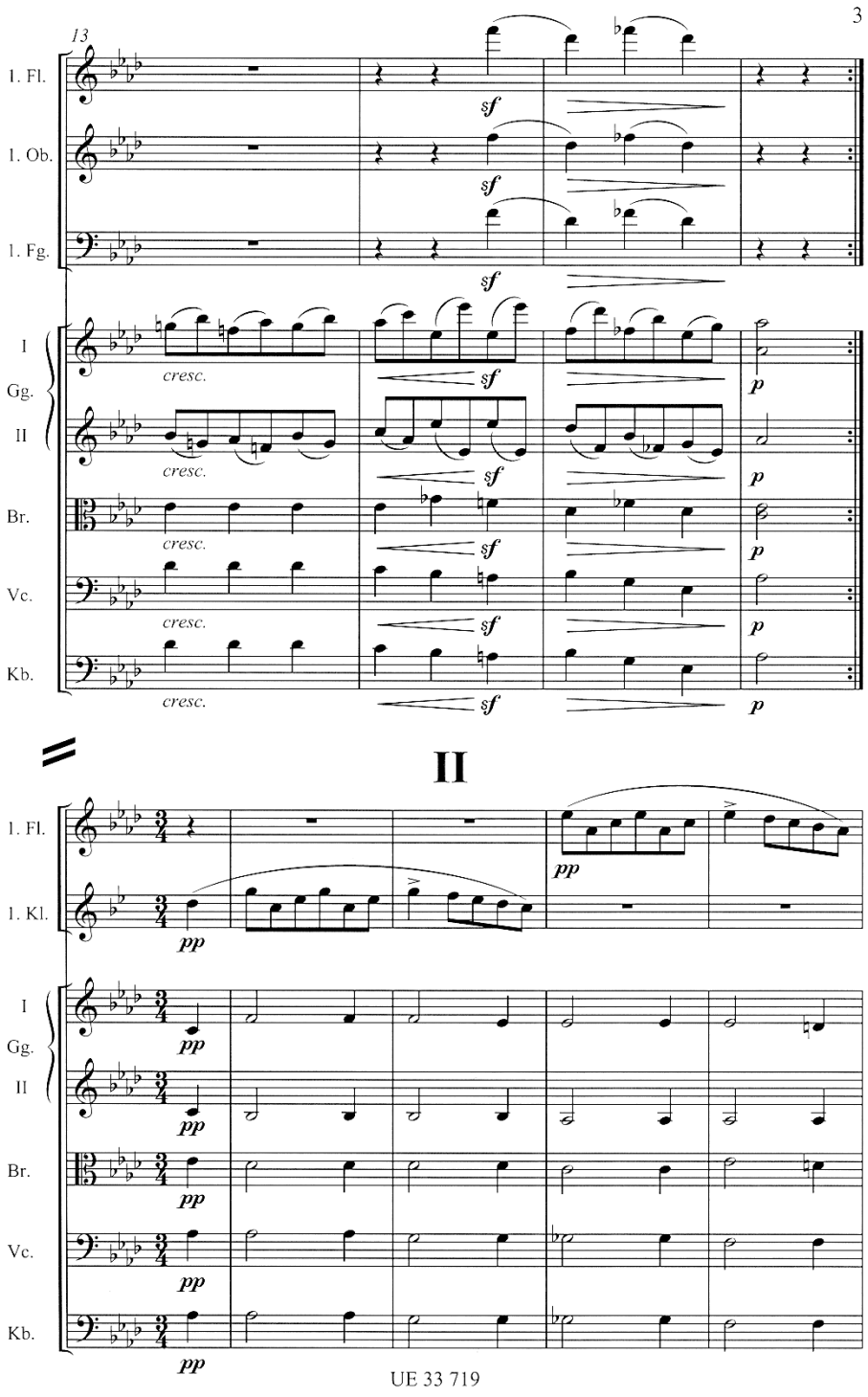
Appendix C: Notated musical examples



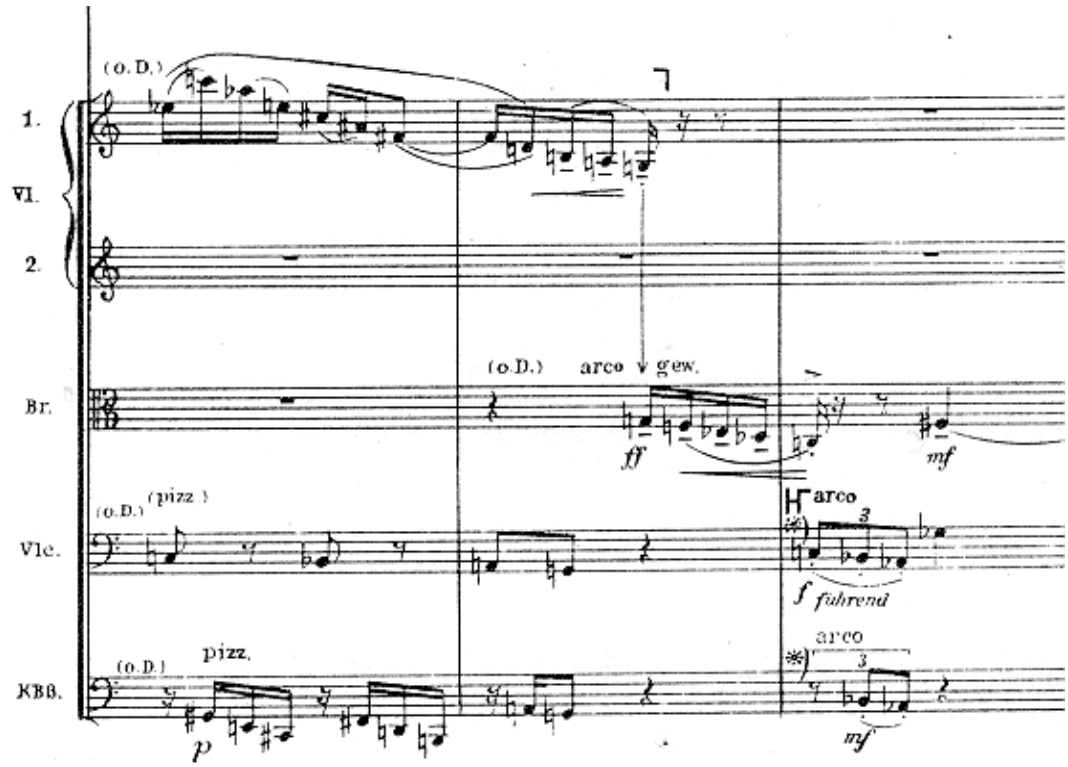
Example 1: Schubert arr. Webern, German Dance no. 1, Op. posth. D820 (1 of 3)



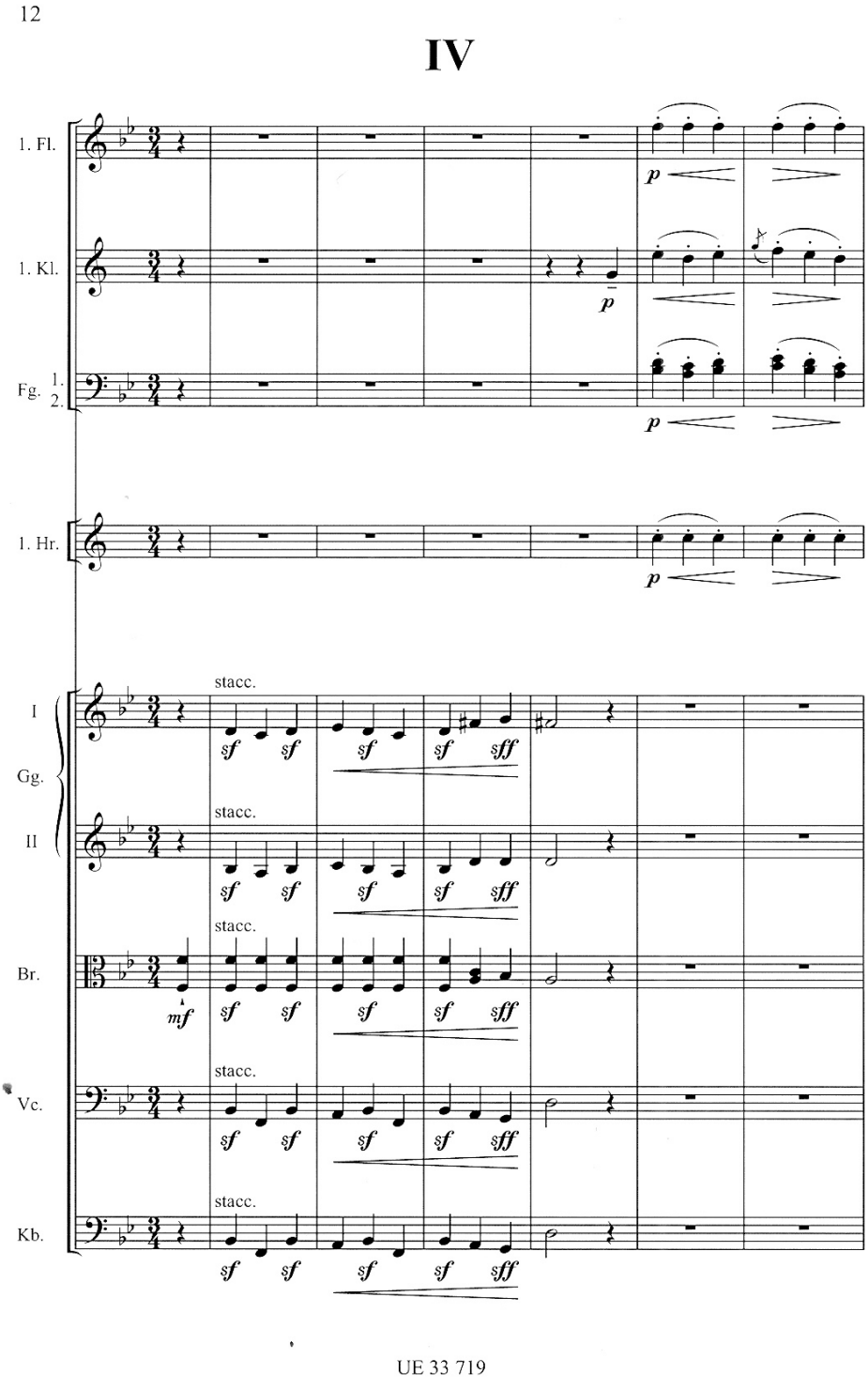
Example 1: Schubert arr. Webern, German Dance no. 1, Op. posth. D820 (2 of 3)



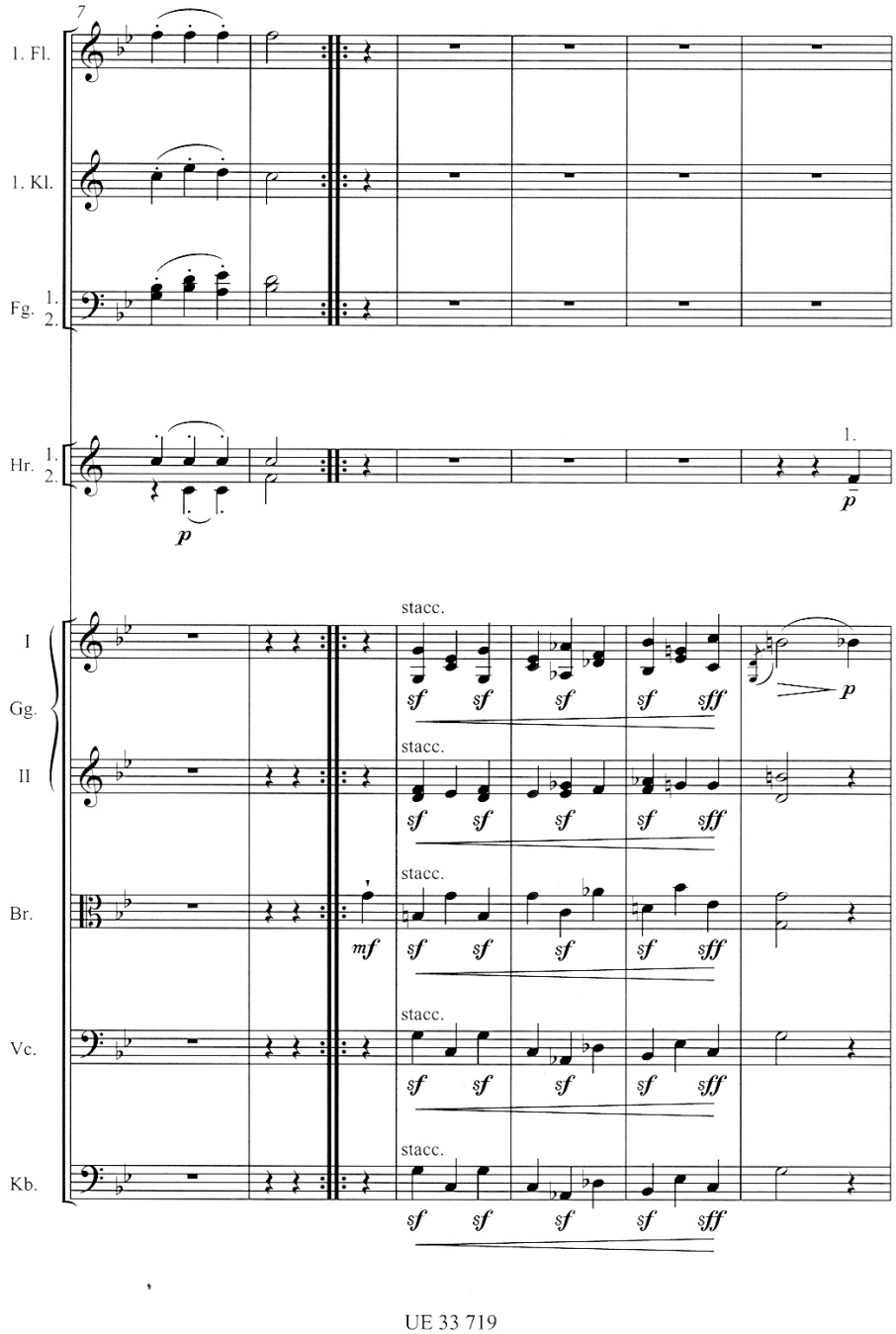
Example 1: Schubert arr. Webern, German Dance no. 1, Op. posth. D820 (3 of 3)



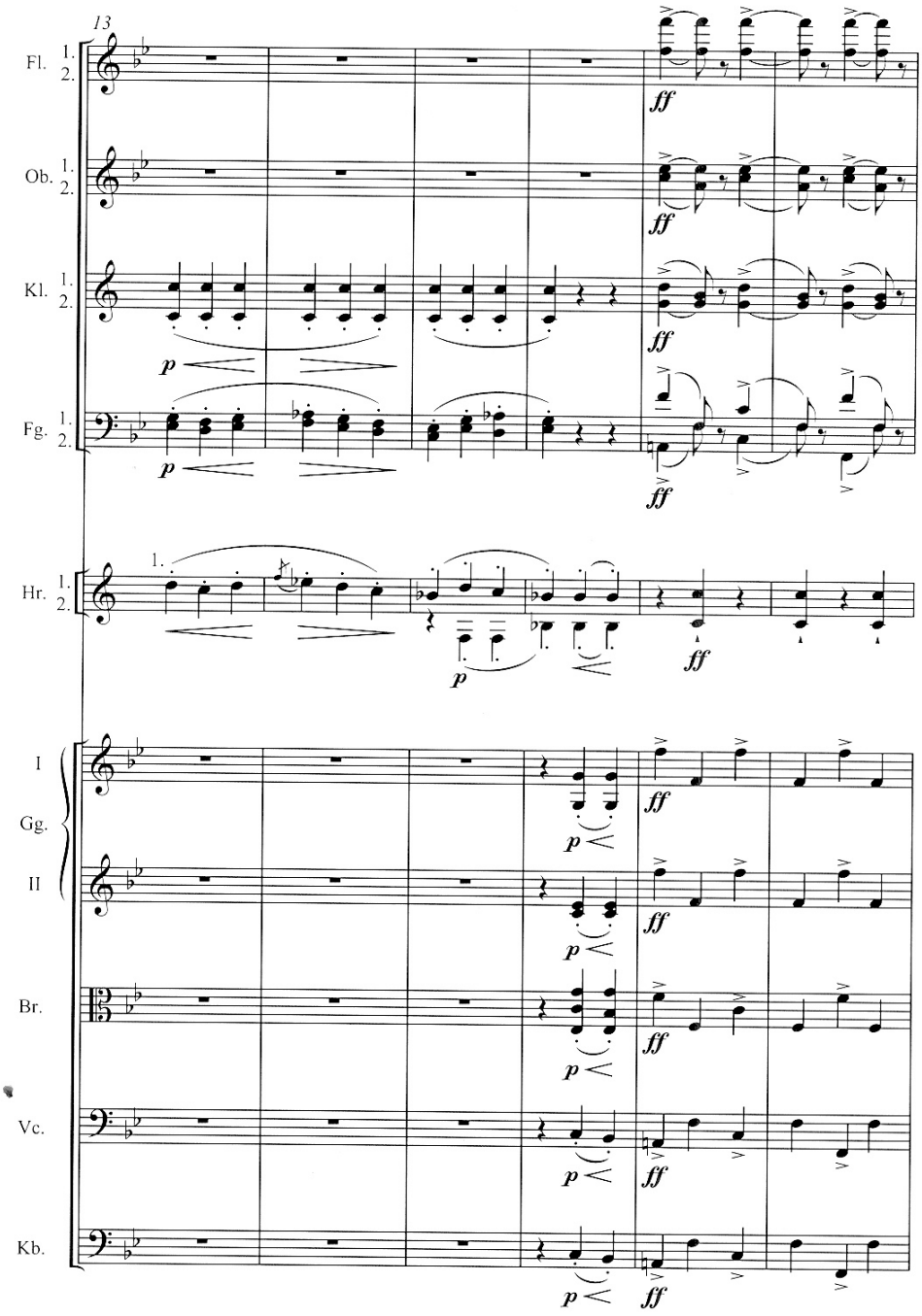
Example 2: Berg, Violin Concerto, bars 52-54, strings



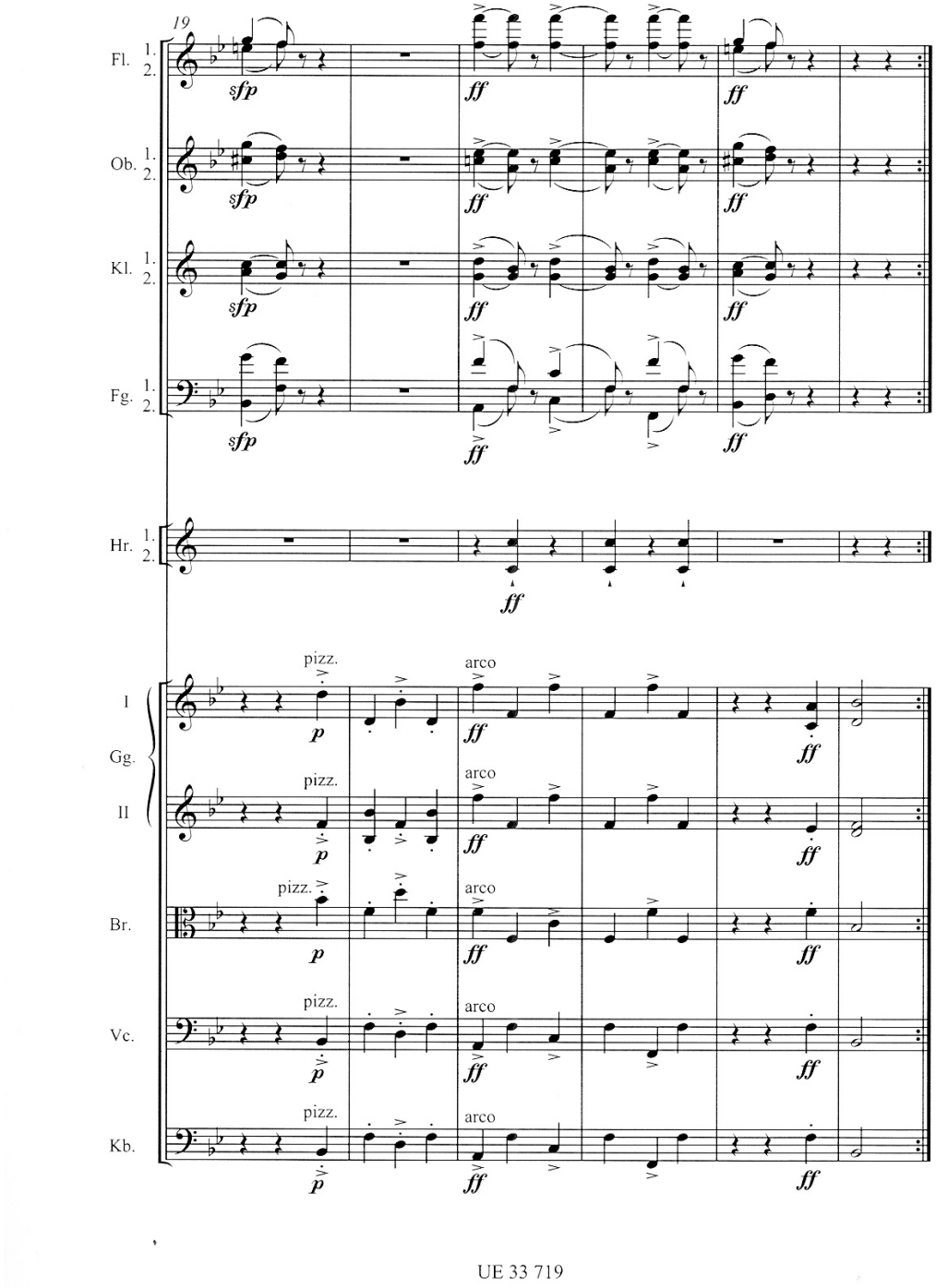
Example 3: Schubert arr. Webern, German Dance no. 4 (1 of 4)



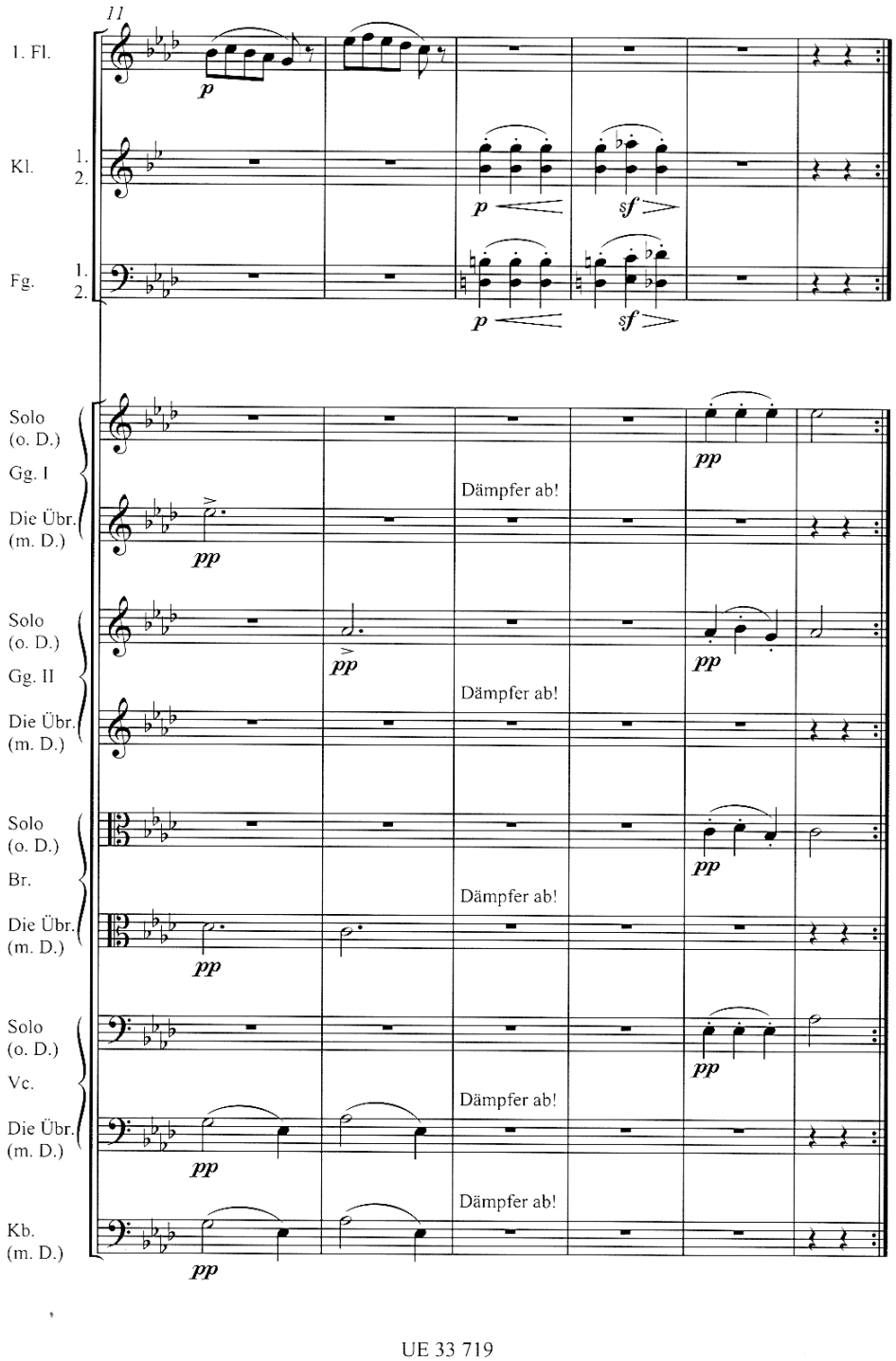
Example 3: Schubert arr. Webern, German Dance no. 4 (2 of 4)



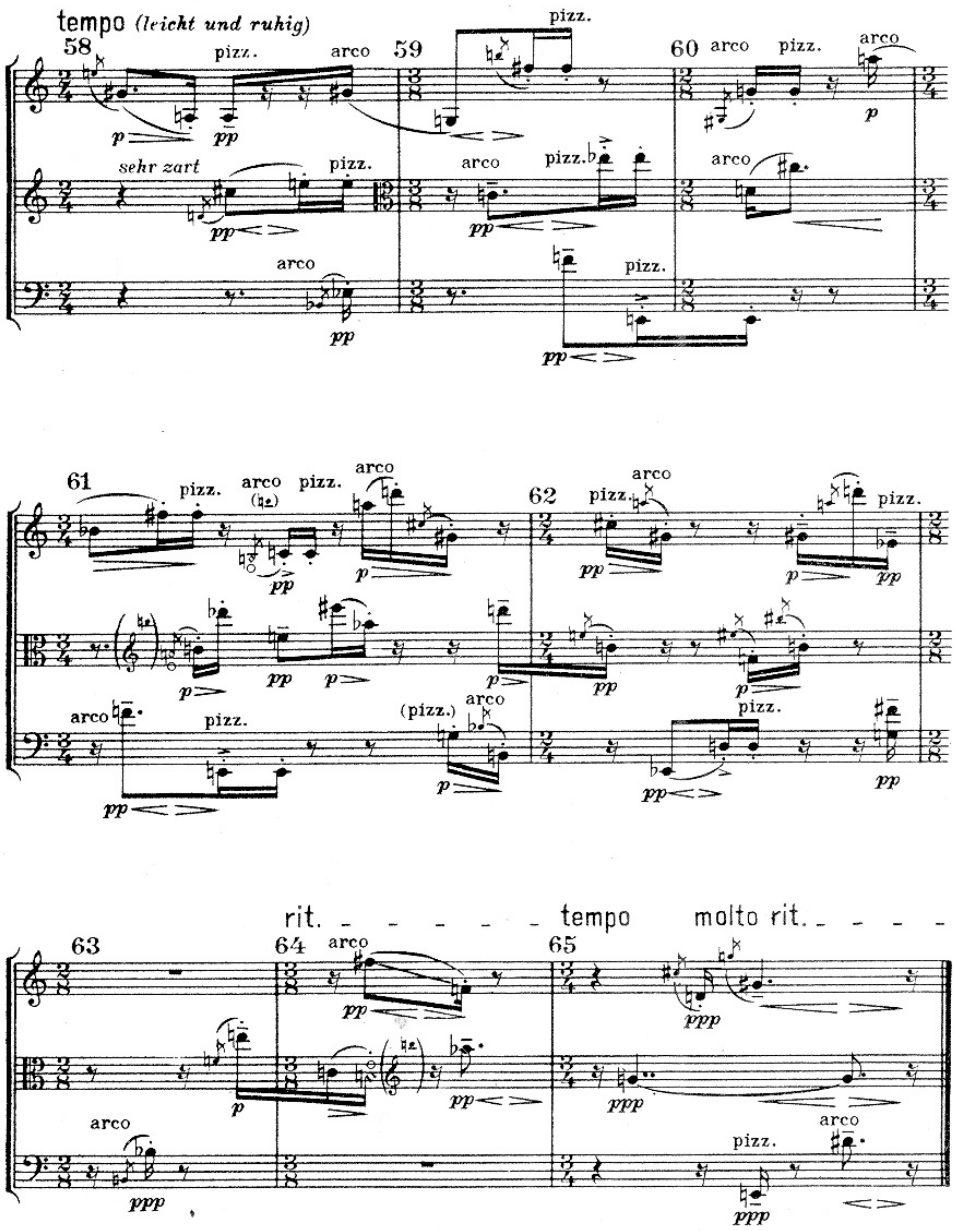
Example 3: Schubert arr. Webern, German Dance no. 4 (3 of 4)



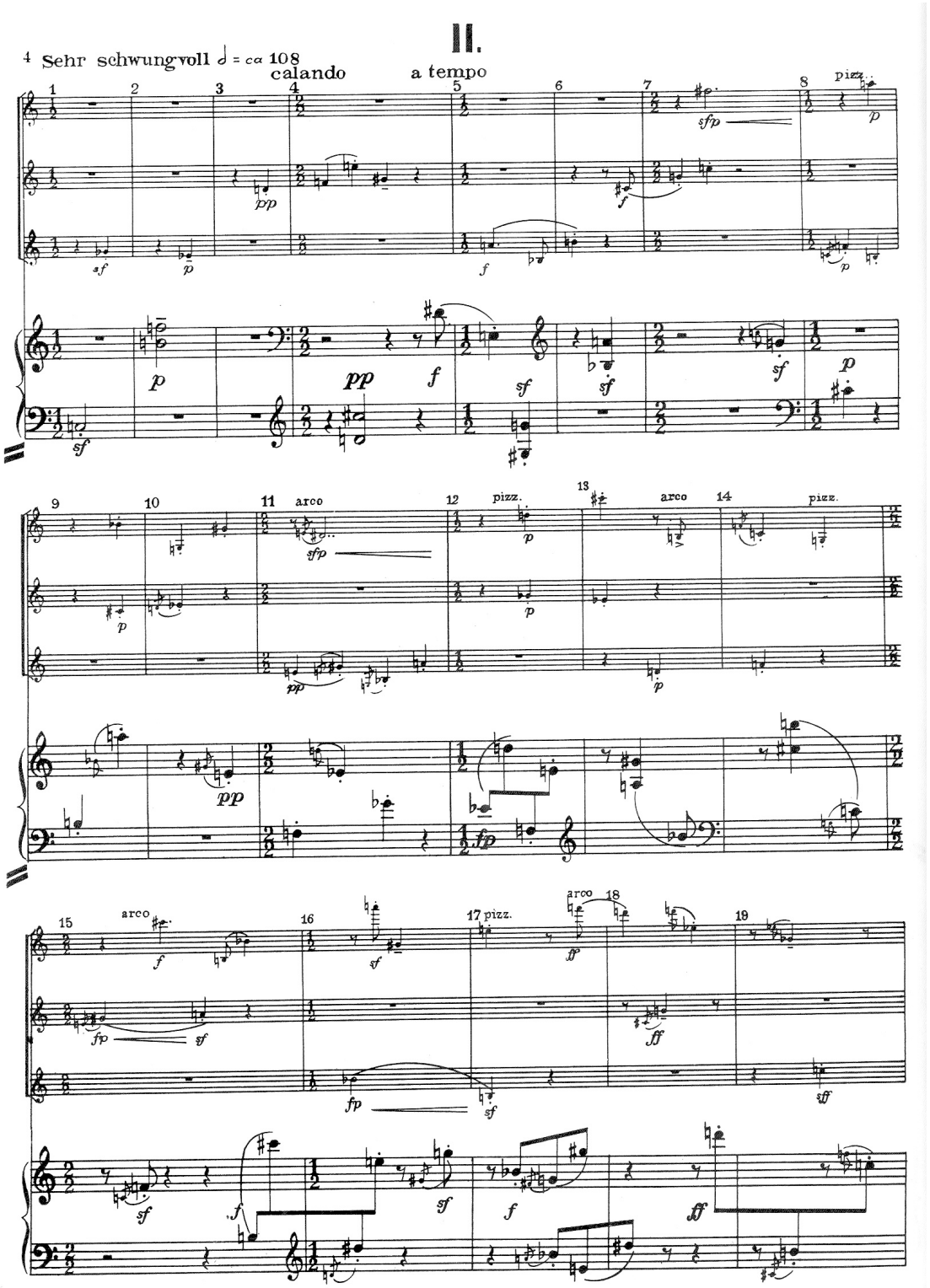
Example 3: Schubert arr. Webern, German Dance no. 4 (4 of 4)



Example 4: Schubert arr. Webern, German Dance no. 3, bars 11-16
Cadence in Db (subdominant) in clarinets and bassoons in bars 13-14.



Example 5: Webern, String Trio, Op. 20, first movement, bars 58-65



Example 6: Webern, Quartet, Op. 22, second movement, bars 1-19

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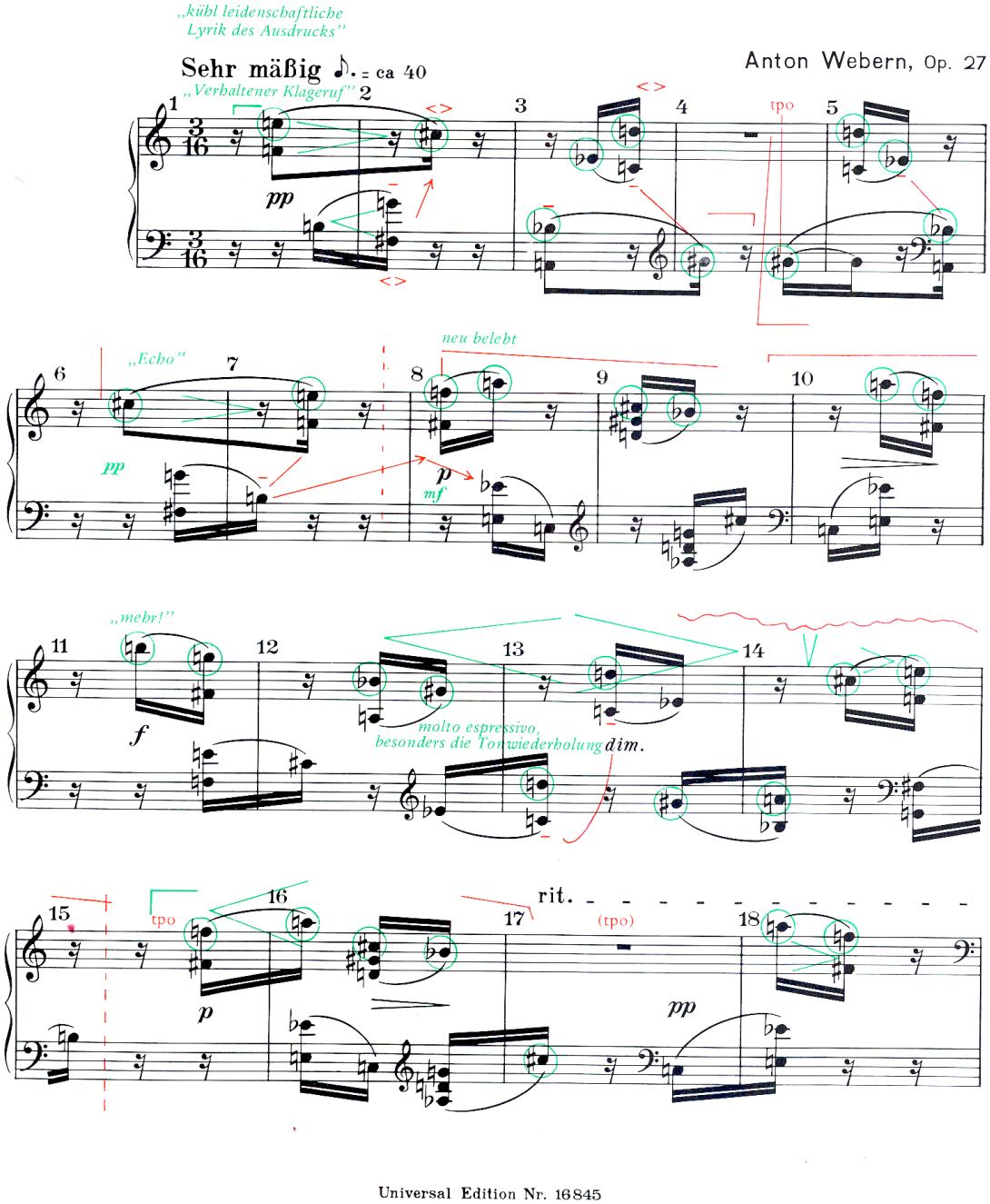

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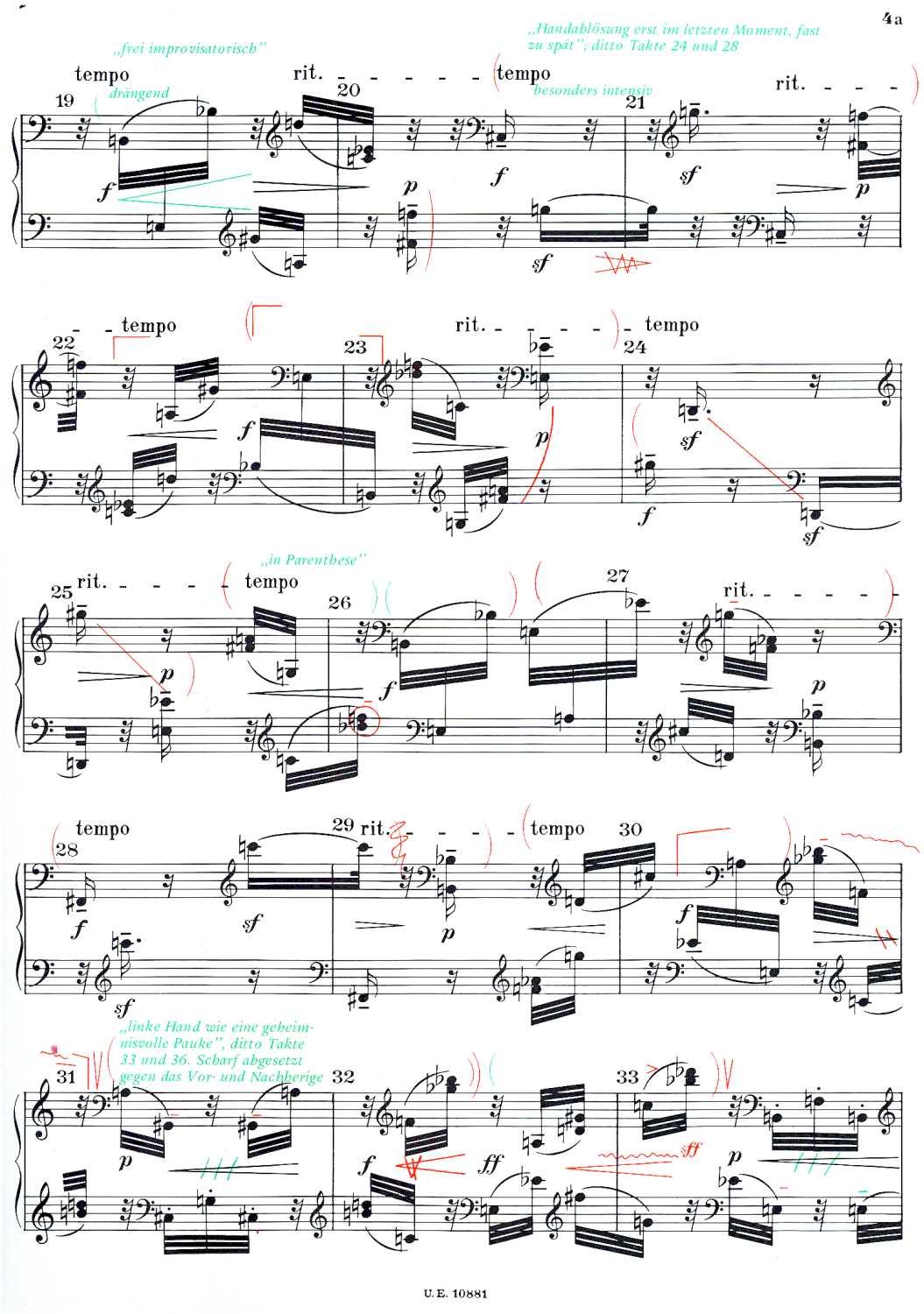
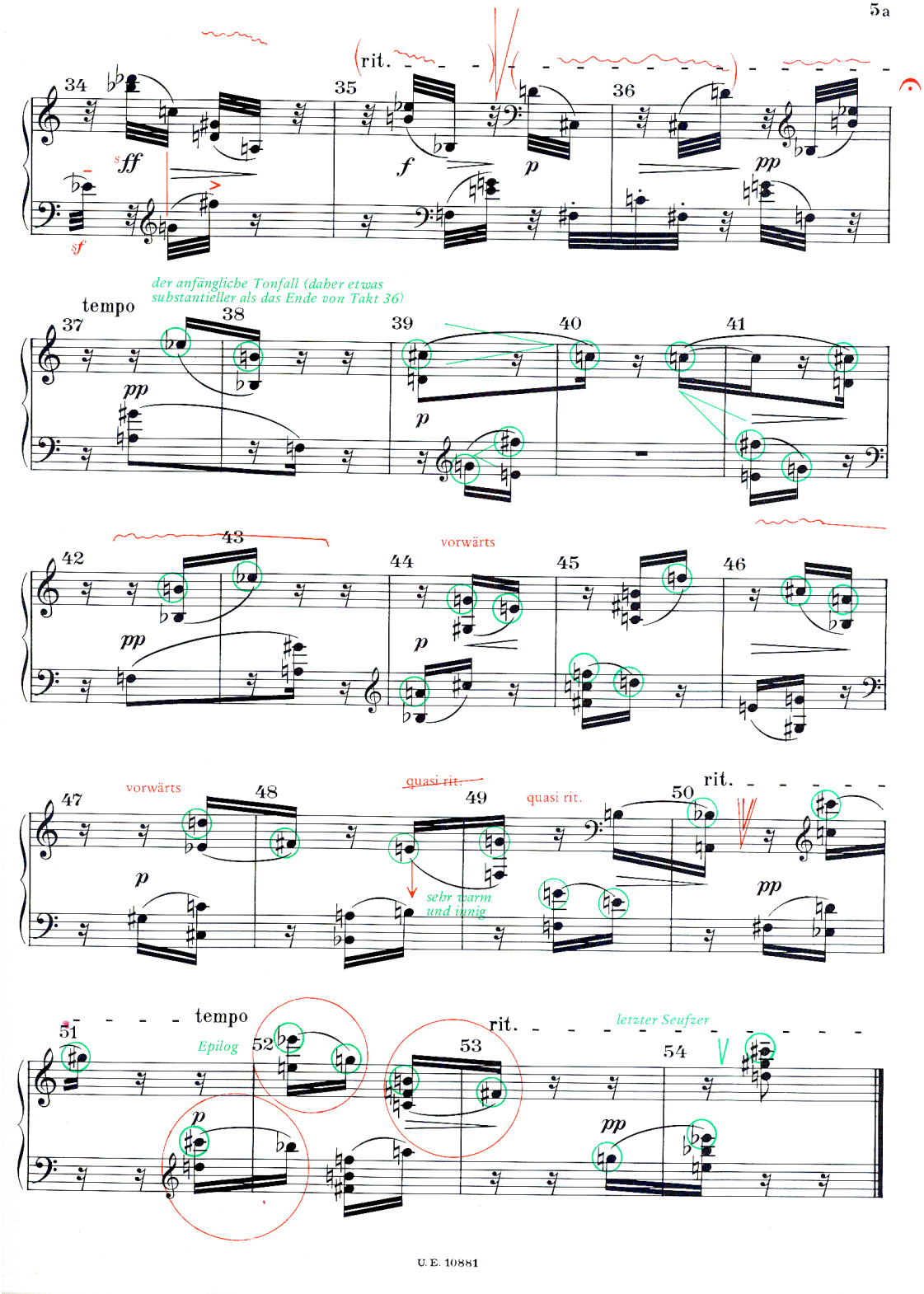
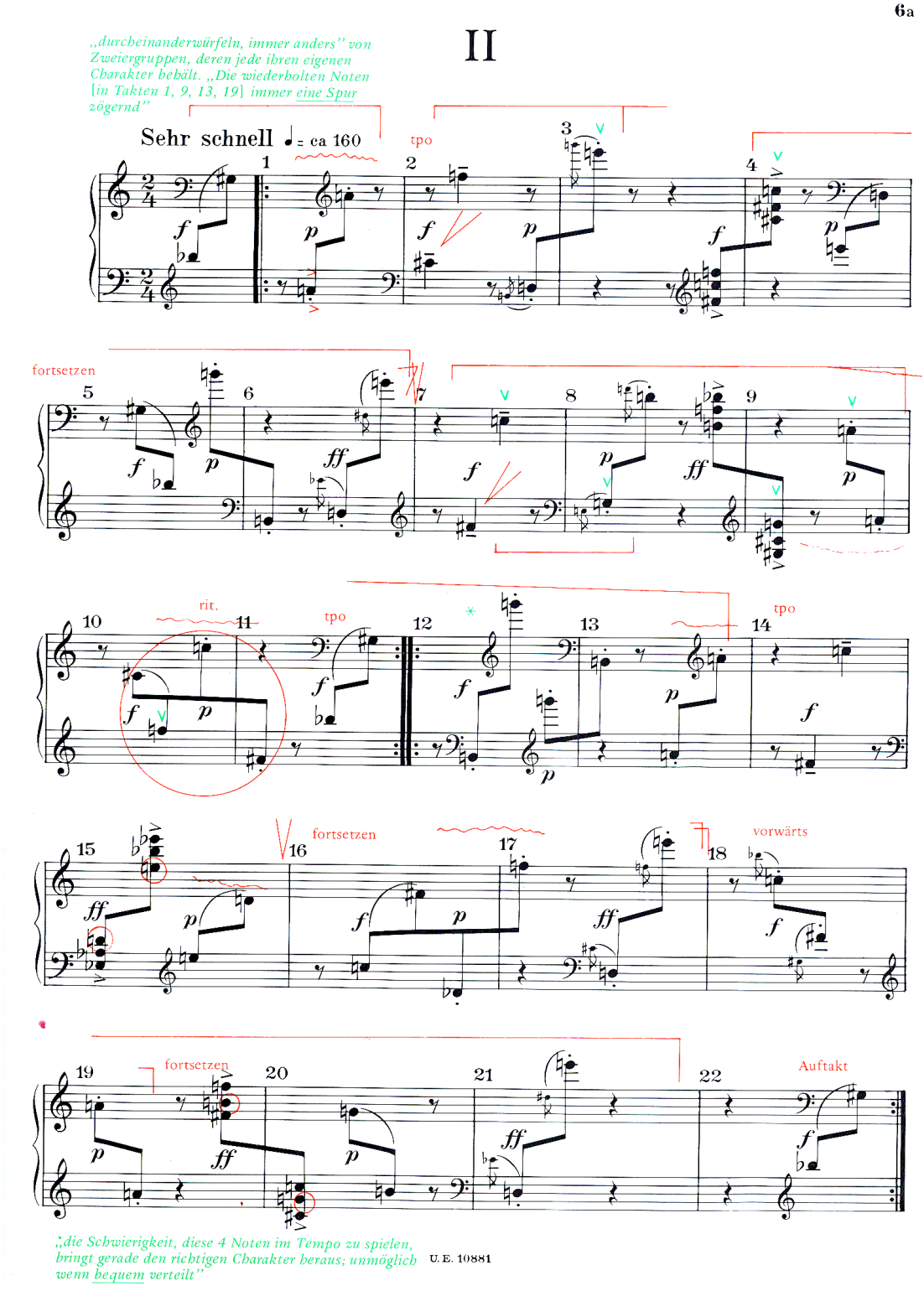
Example 7: Webern, Variations for Piano, Op. 27, first movement, performance score (1 of 3)



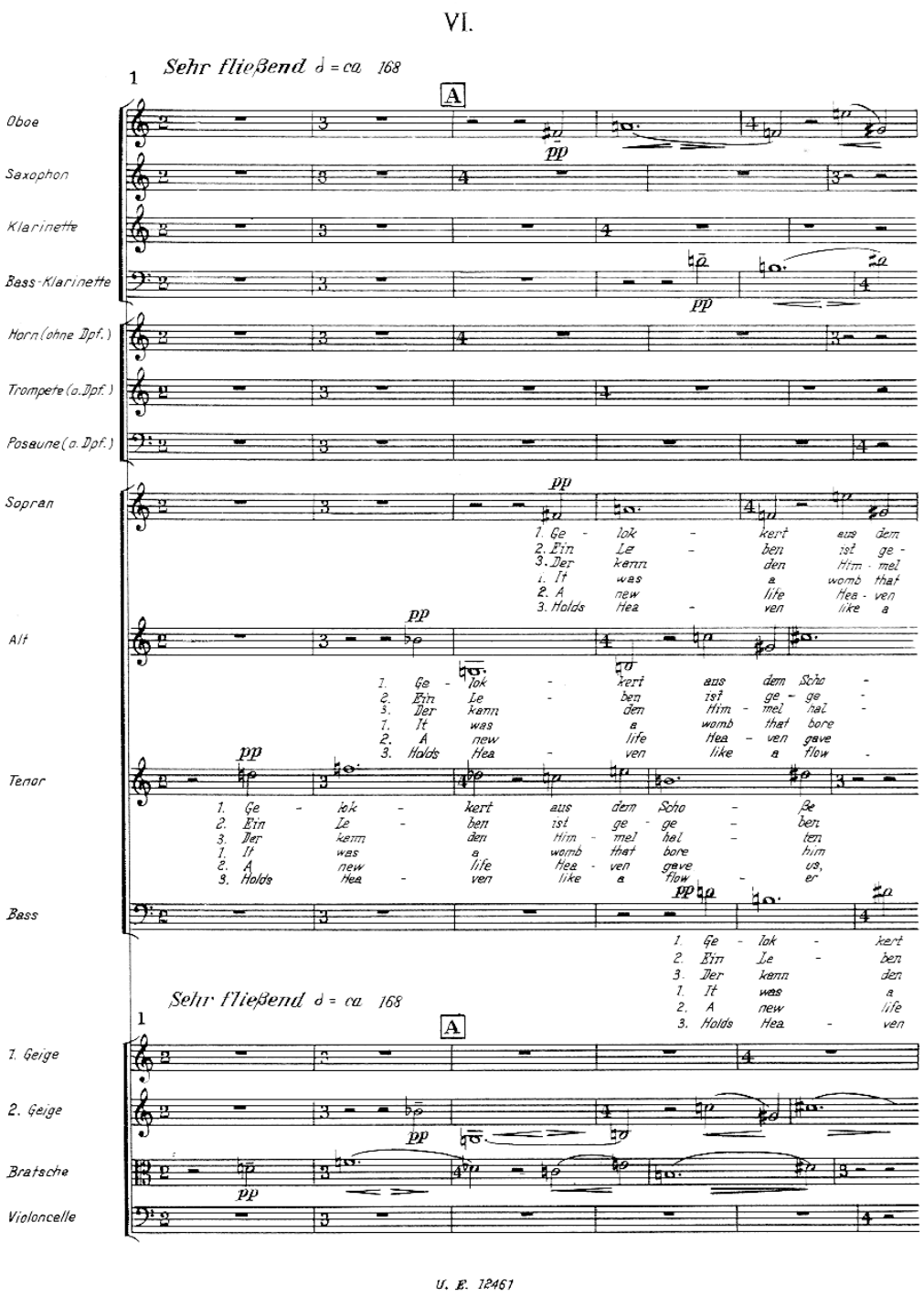
Example 7: Webern, Variations for Piano, Op. 27, first movement, performance score (2 of 3)



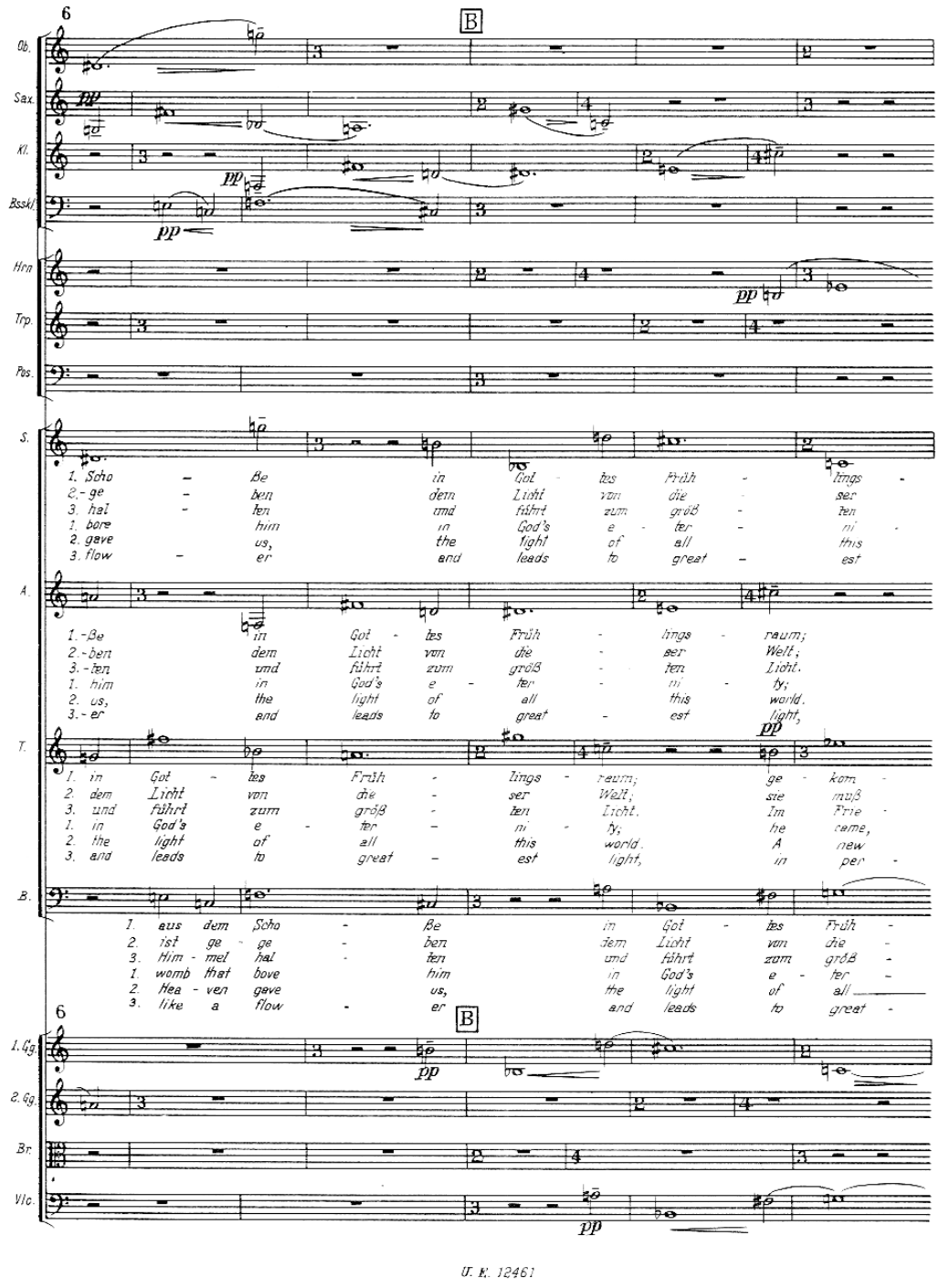
Example 7: Webern, Variations for Piano, Op. 27, first movement, performance score (3 of 3)



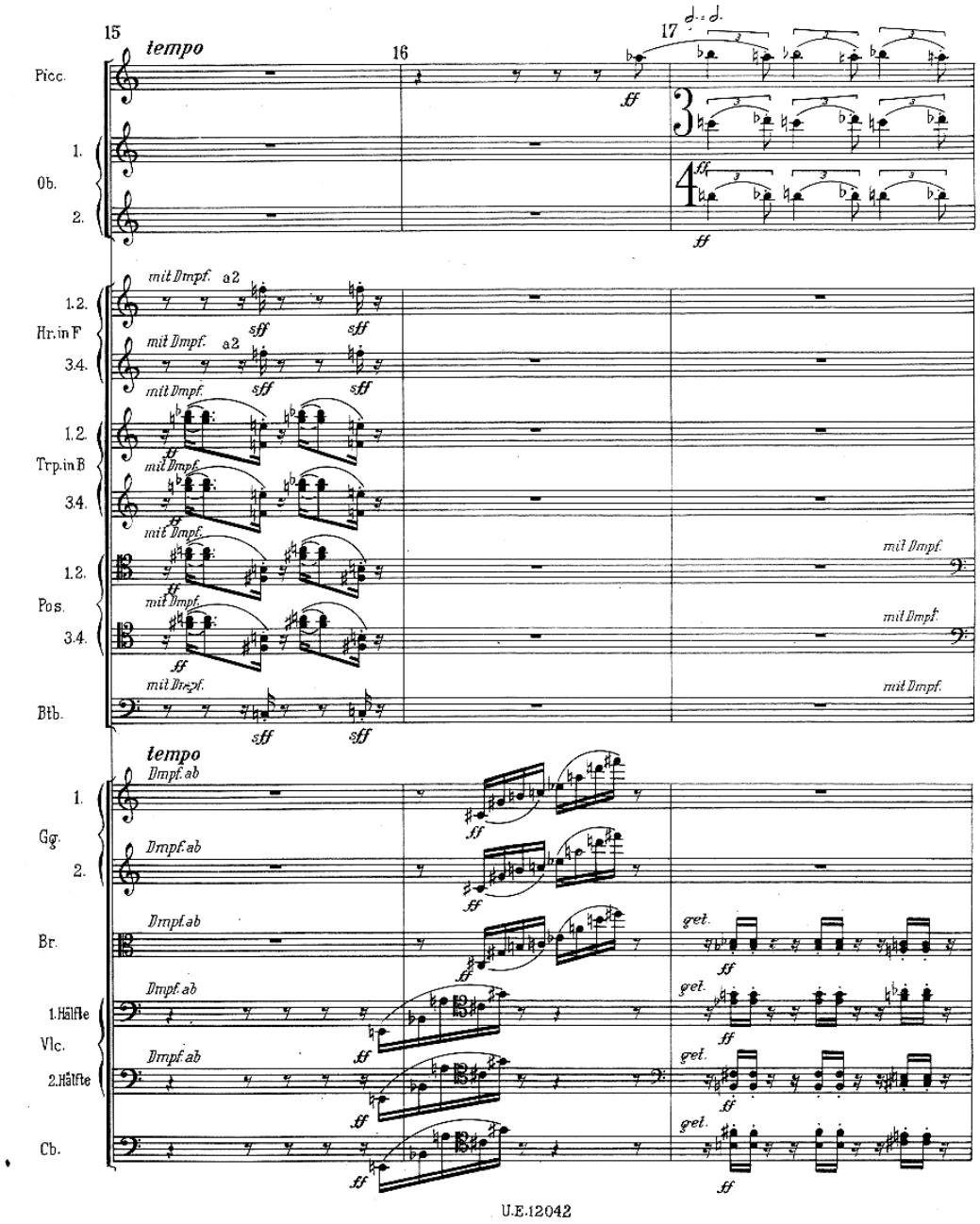
Example 8: Webern, Variations for Piano, Op. 27, second movement, performance score



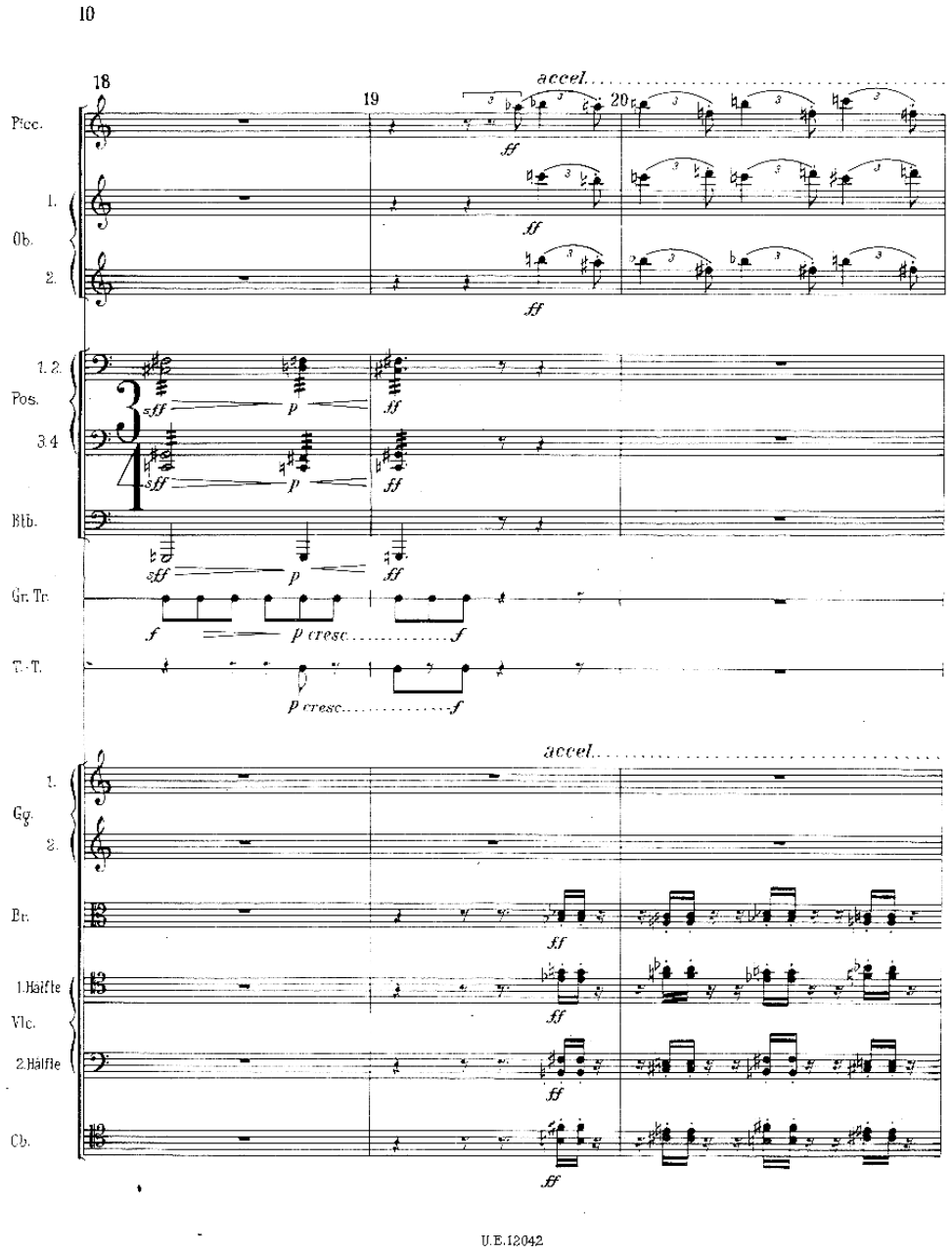
Example 9: Webern, Second Cantata, Op. 31, no. 6: 'Gelockert aus dem Schoße', bars 1-10 (1 of 2)



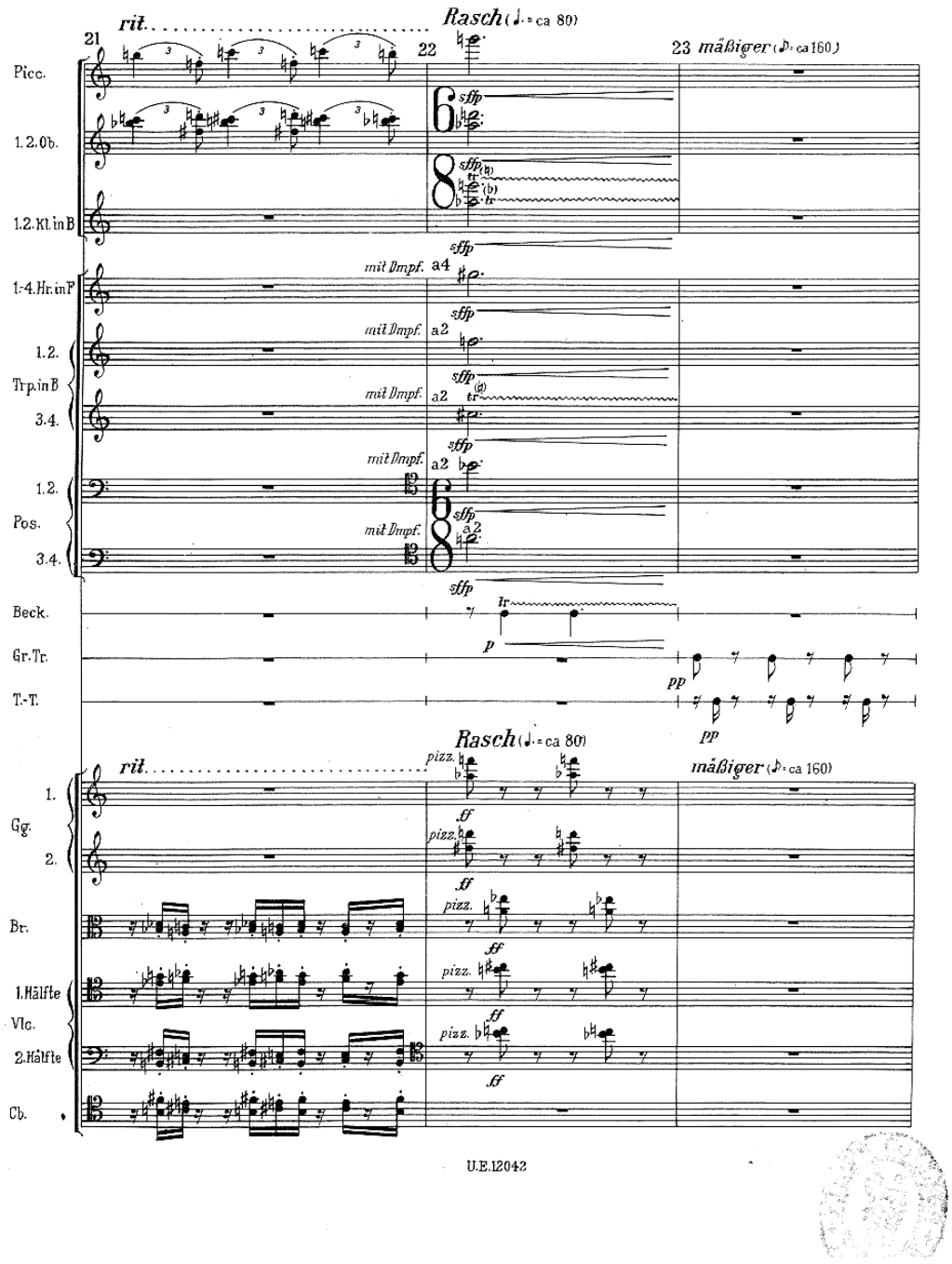
Example 9: Webern, Second Cantata, Op. 31, no. 6: 'Gelockert aus dem Schoße', bars 1-10 (2 of 2)



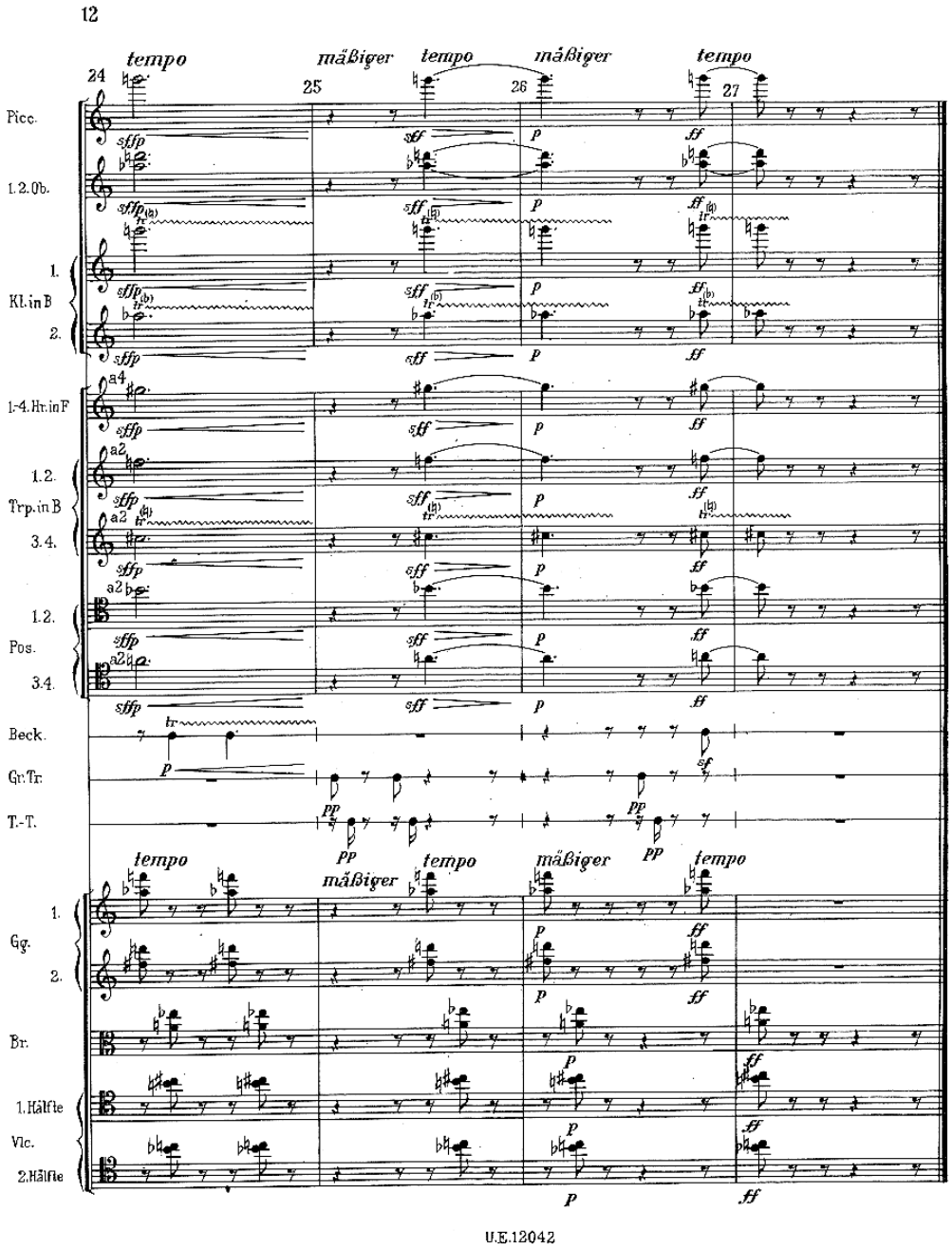
Example 10: Webern, Six Pieces for Orchestra, Op. 6, no. 2, bars 15-end (1 of 4)



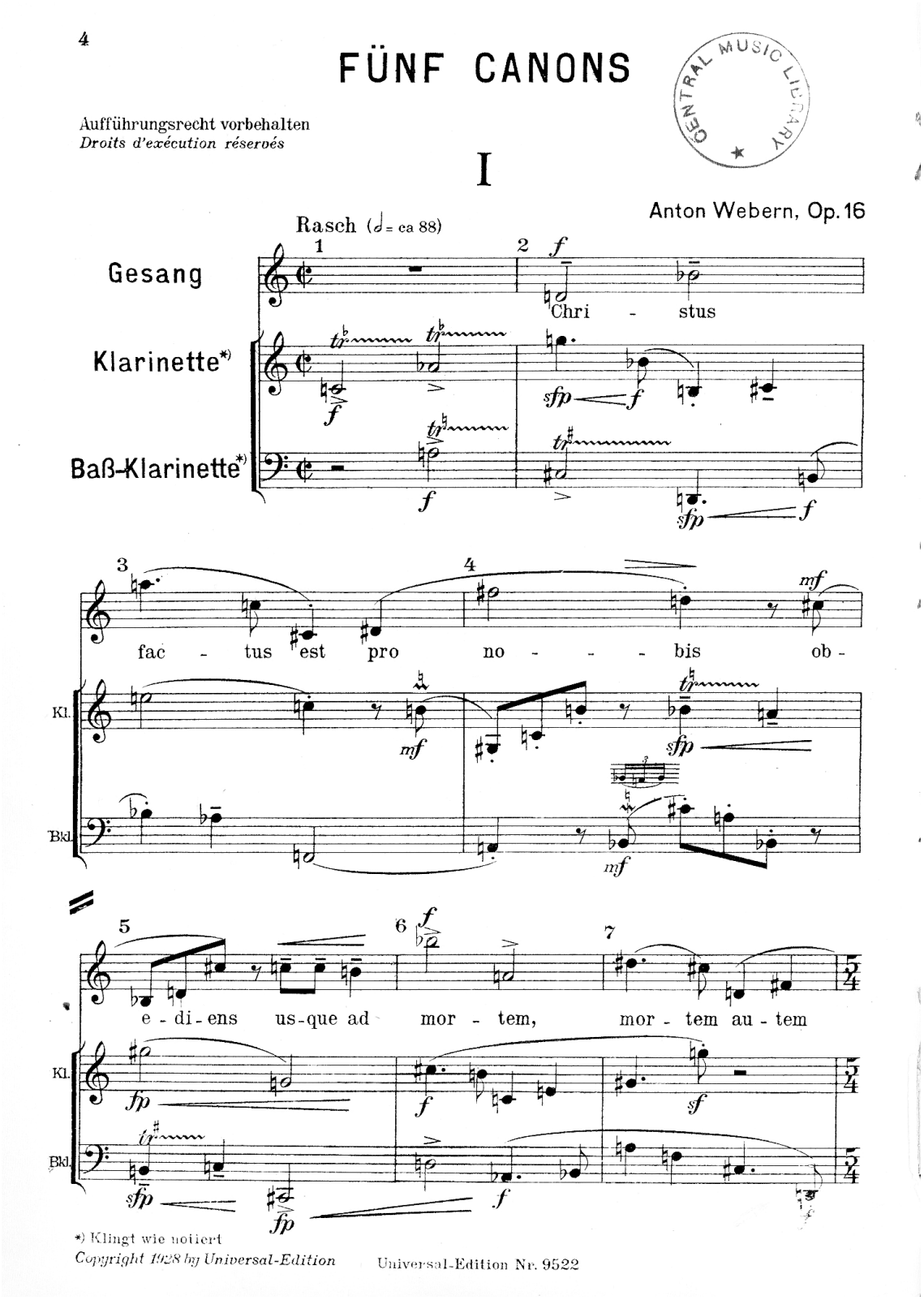
Example 10: Webern, Six Pieces for Orchestra, Op. 6, no. 2, bars 15-end (2 of 4)



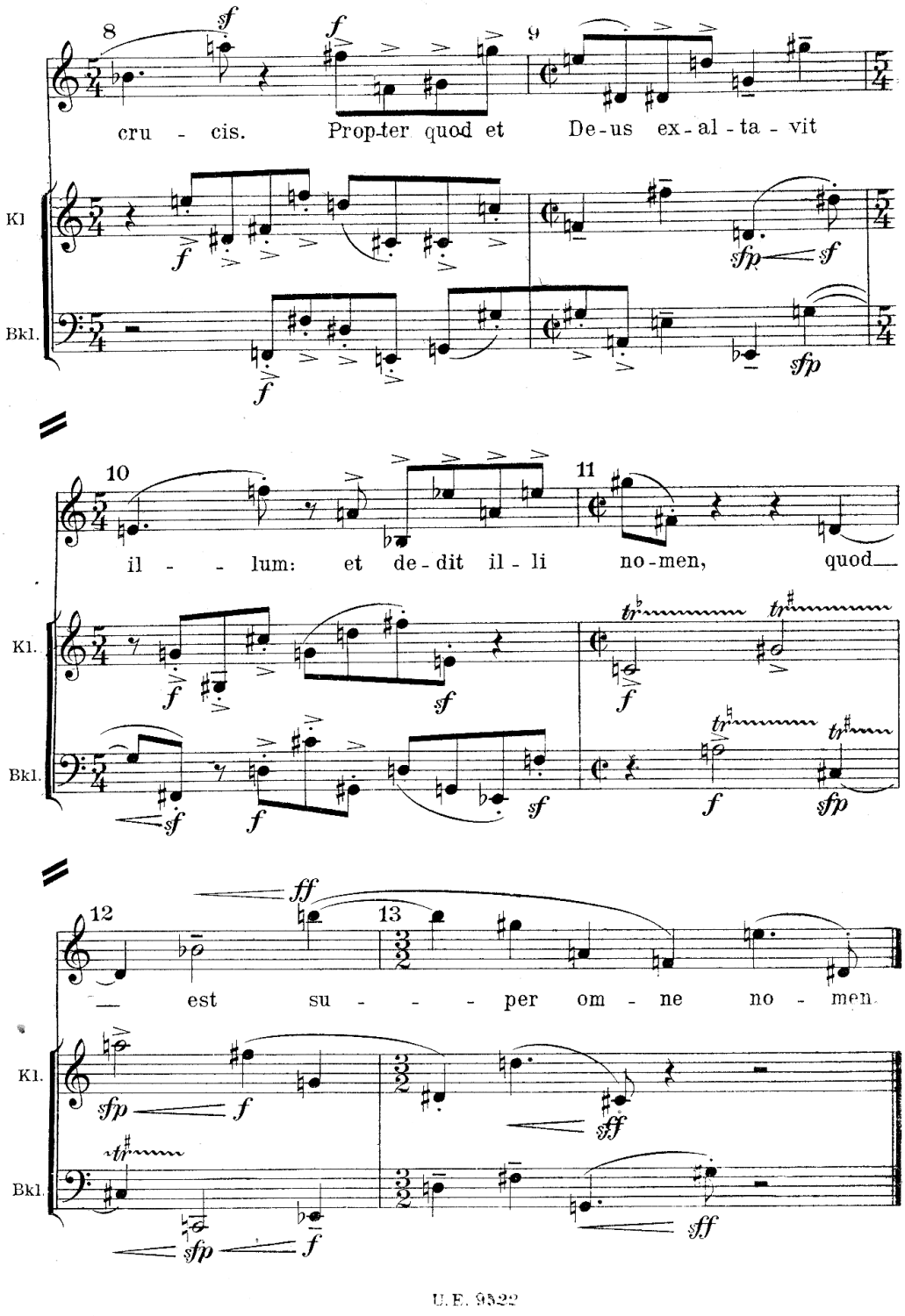
Example 10: Webern, Six Pieces for Orchestra, Op. 6, no. 2, bars 15-end (3 of 4)



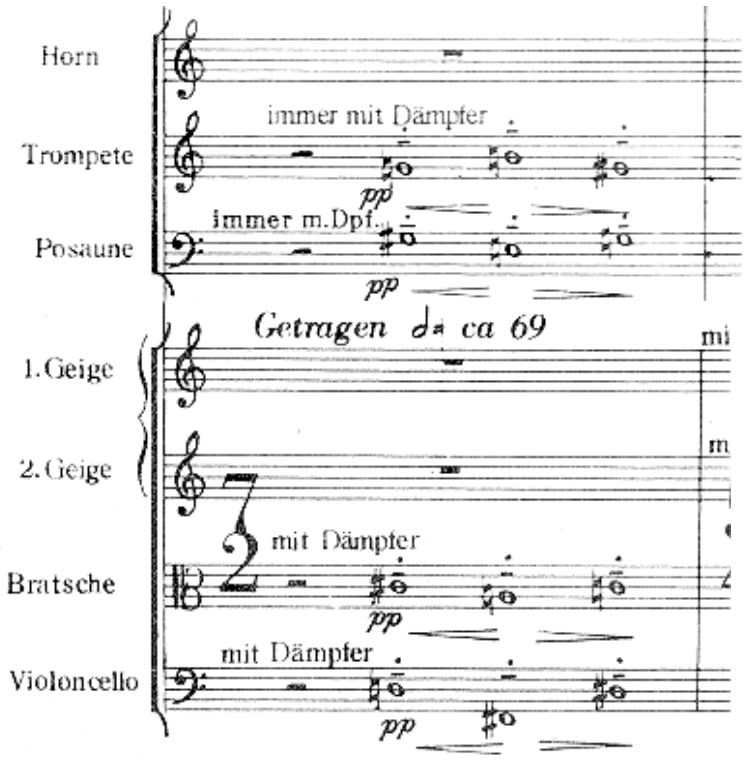
Example 10: Webern, Six Pieces for Orchestra, Op. 6, no. 2, bars 15-end (4 of 4)



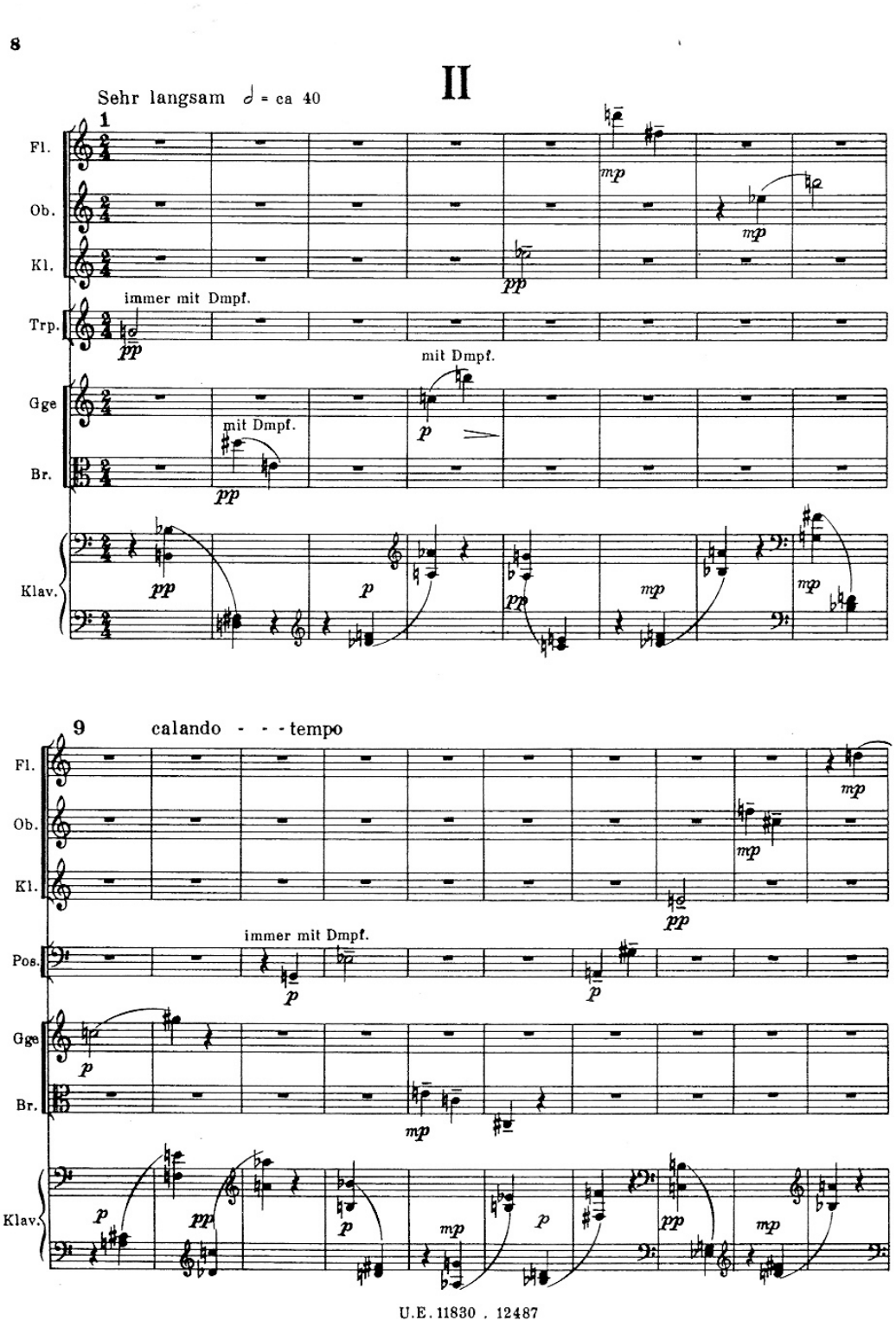
Example 11: Webern, Five Canons on Latin Texts, Op. 16, no. 1: 'Christus factus est' (1 of 2)



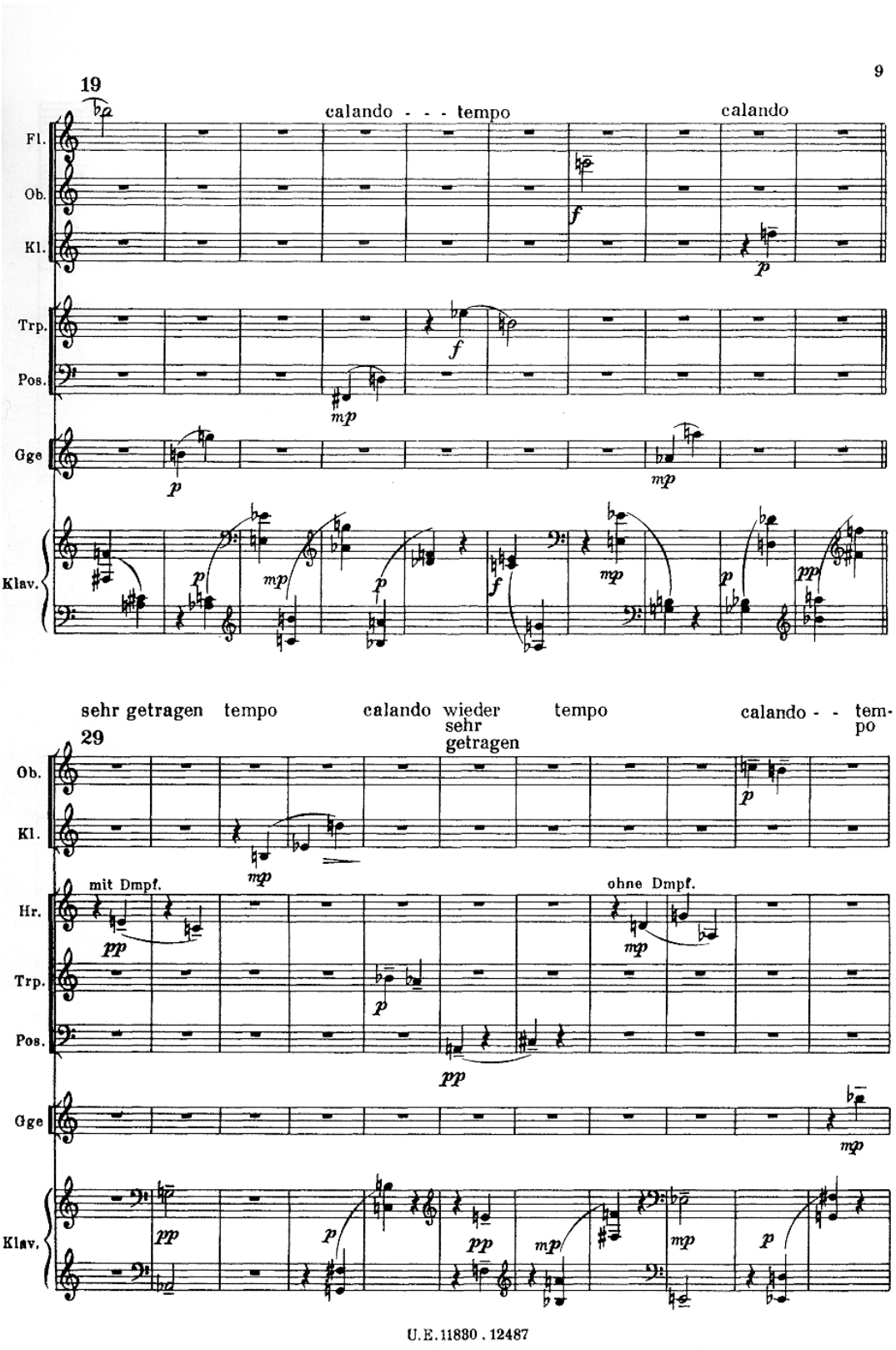
Example 11: Webern, Five Canons on Latin Texts, Op. 16, no. 1: 'Christus factus est' (2 of 2)



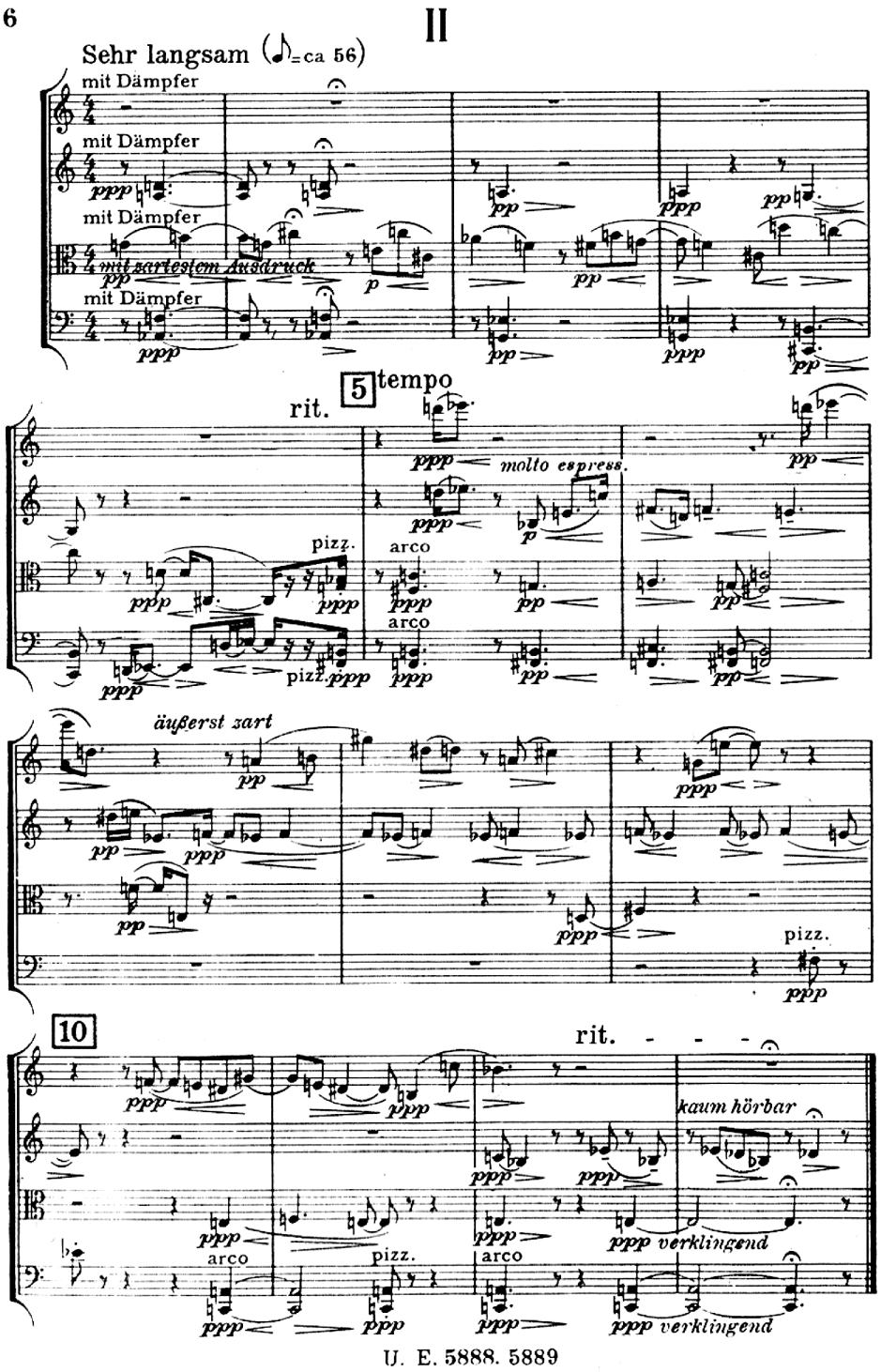
Example 12: Webern, First Cantata, Op. 29, first movement: 'Zündender Lichtblitz', bar 1 (score edited to show brass and strings only)



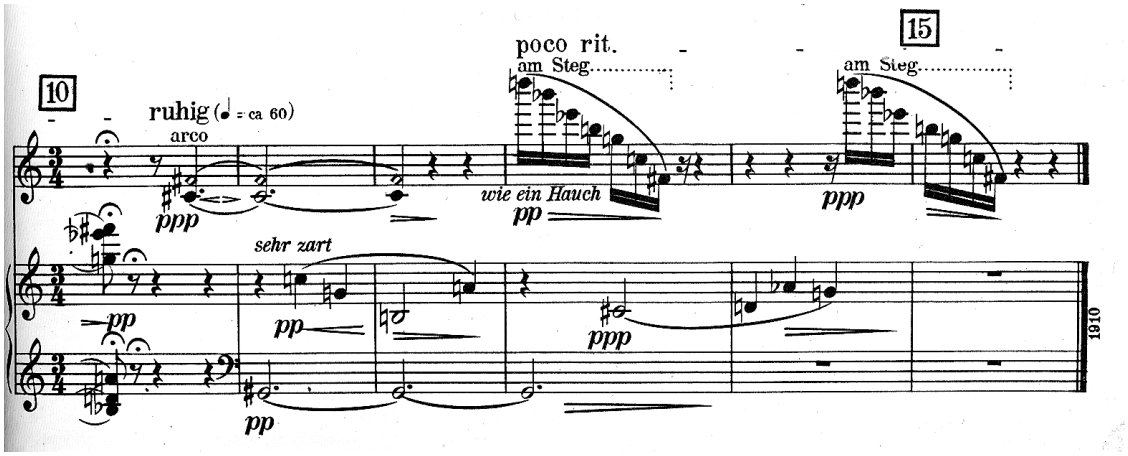
Example 13: Webern, Concerto, Op. 24, second movement (1 of 2)



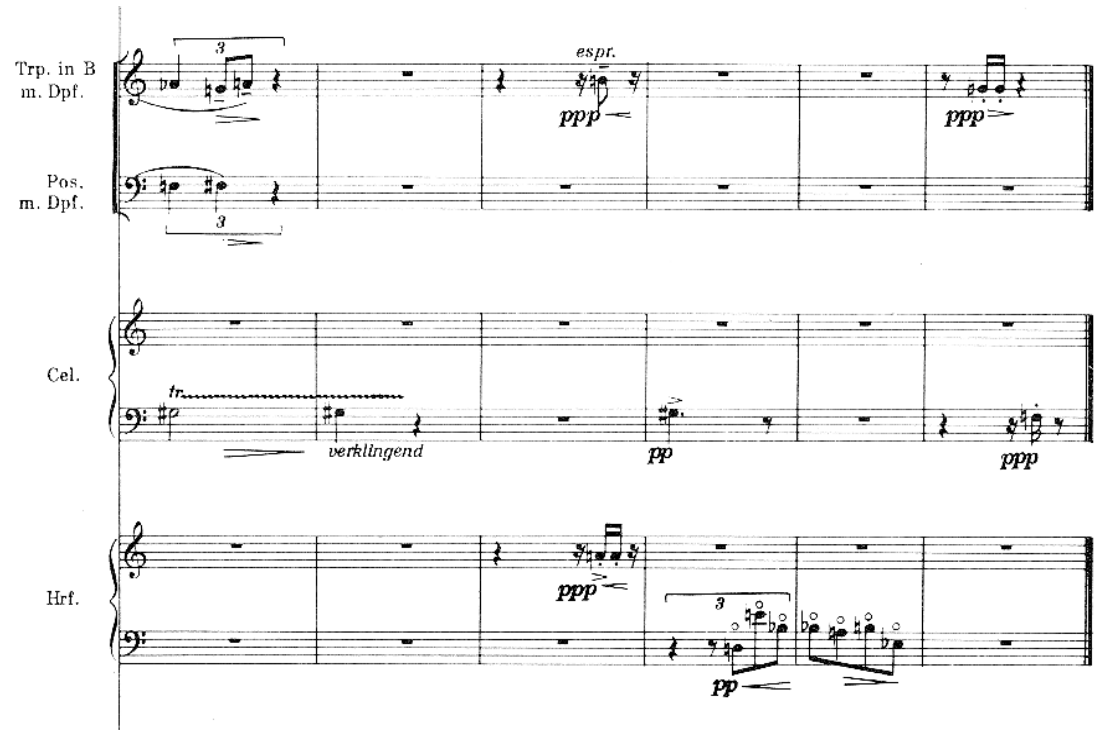
Example 13: Webern, Concerto, Op. 24, second movement (2 of 2)



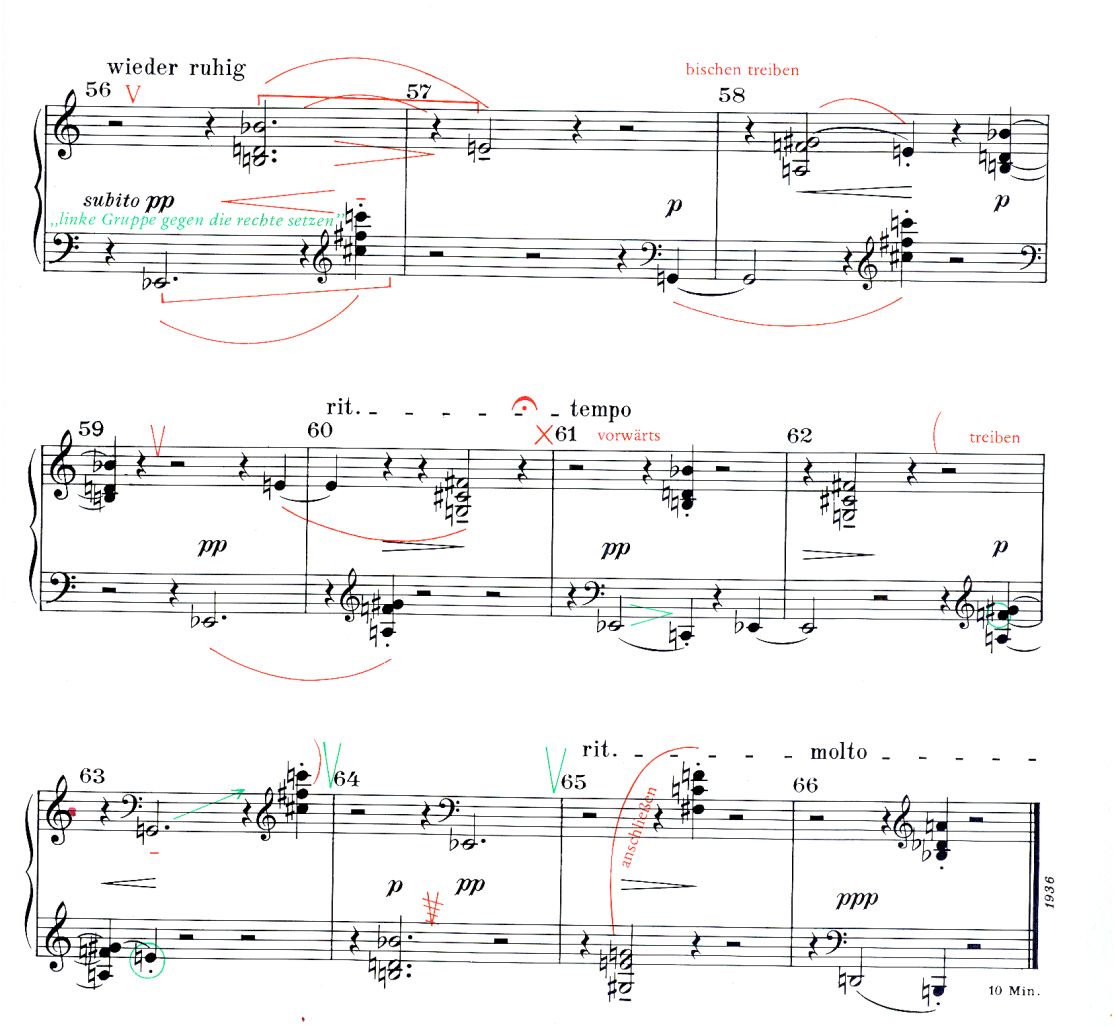
Example 14: Webern, Five Movements for String Quartet, Op. 5, no. 2



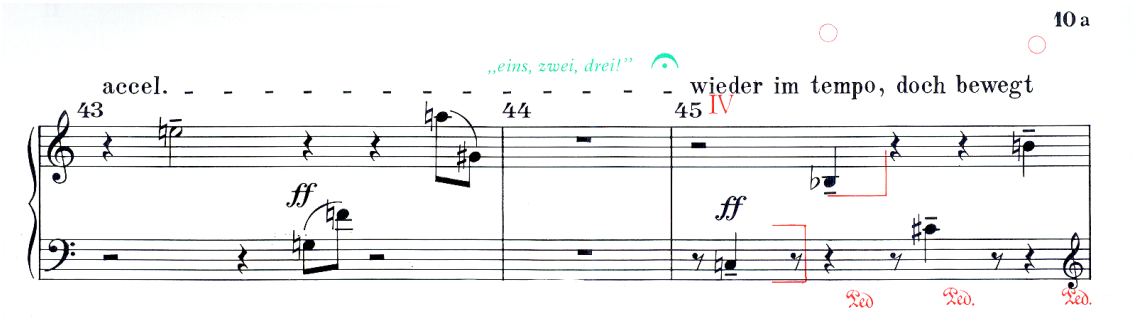
Example 15: Webern, Four Pieces for Violin and Piano, Op. 7, no. 4, bars 10-15



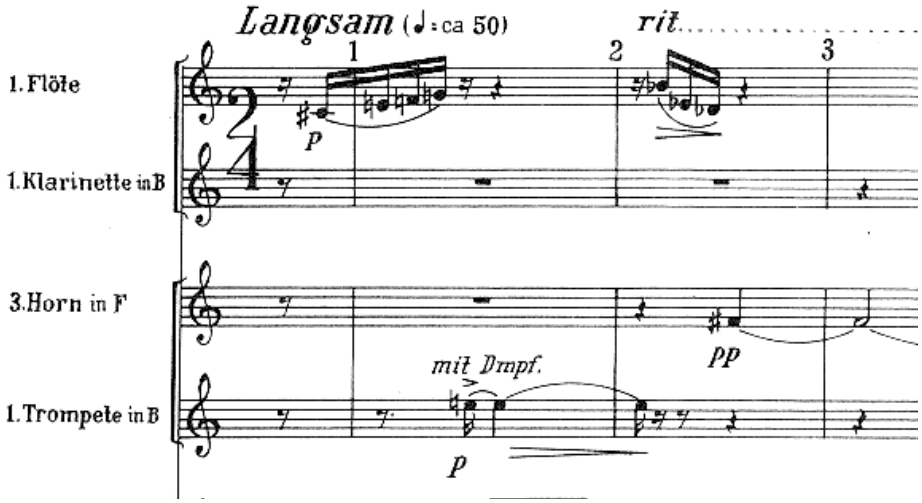
Example 16: Webern, Five Pieces for Orchestra, Op. 10, no. 1, bars 7-12
Brass, celeste and harp only.



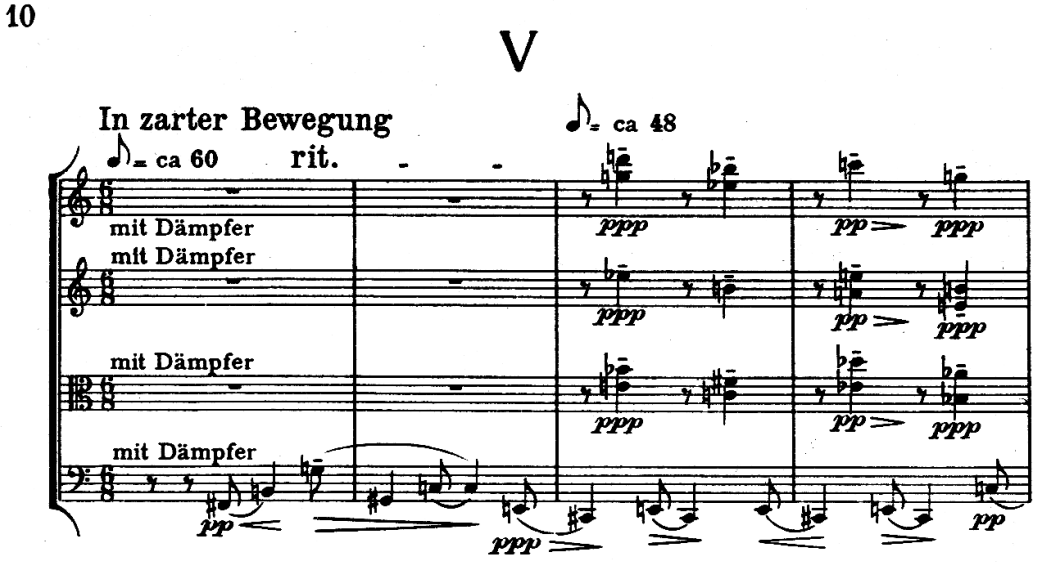
Example 17: Webern, Variations for Piano, Op. 27, third movement, bars 56-66, performance score



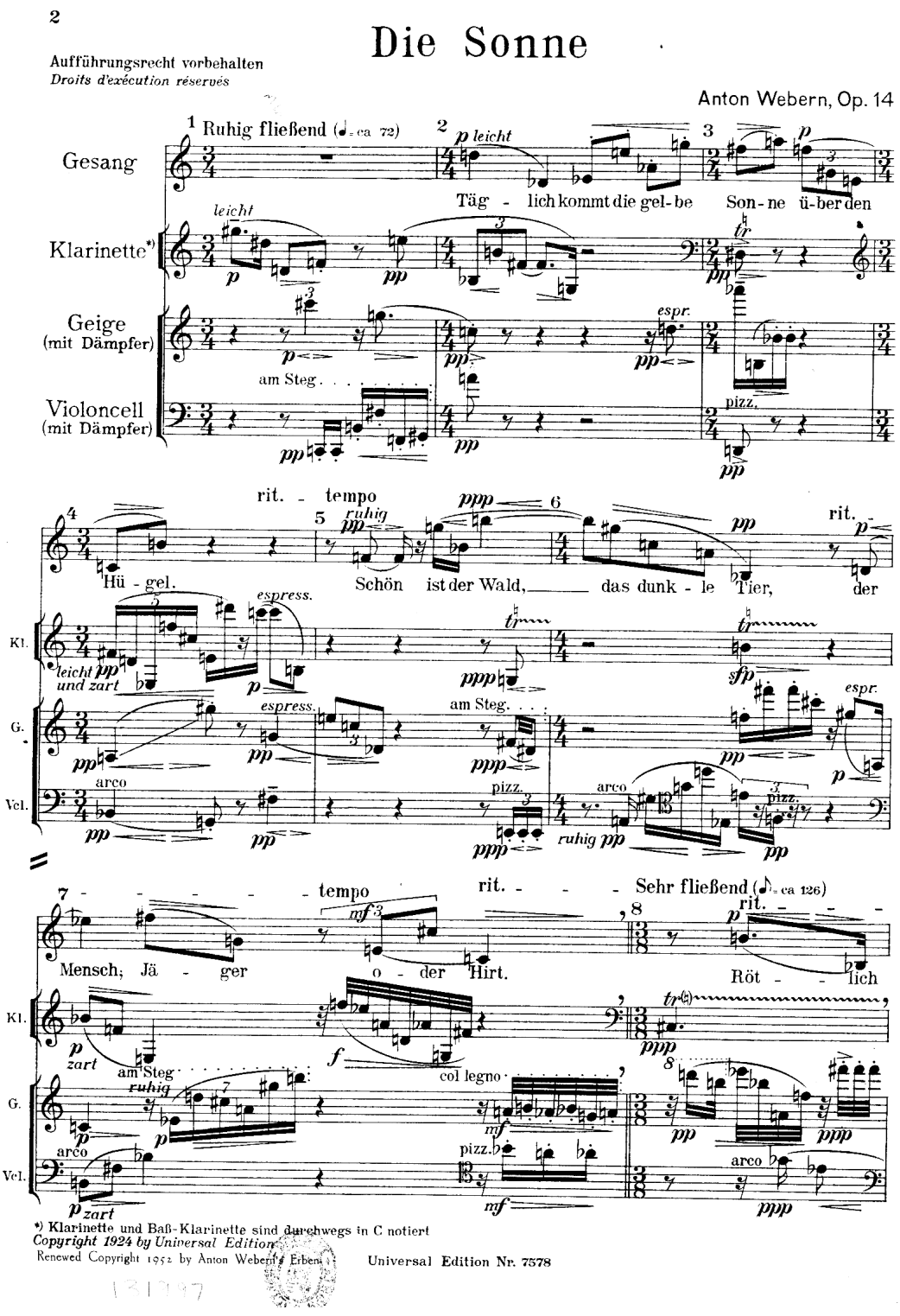
Example 18: Webern, Variations for Piano, Op. 28, third movement, bars 43-45, performance score



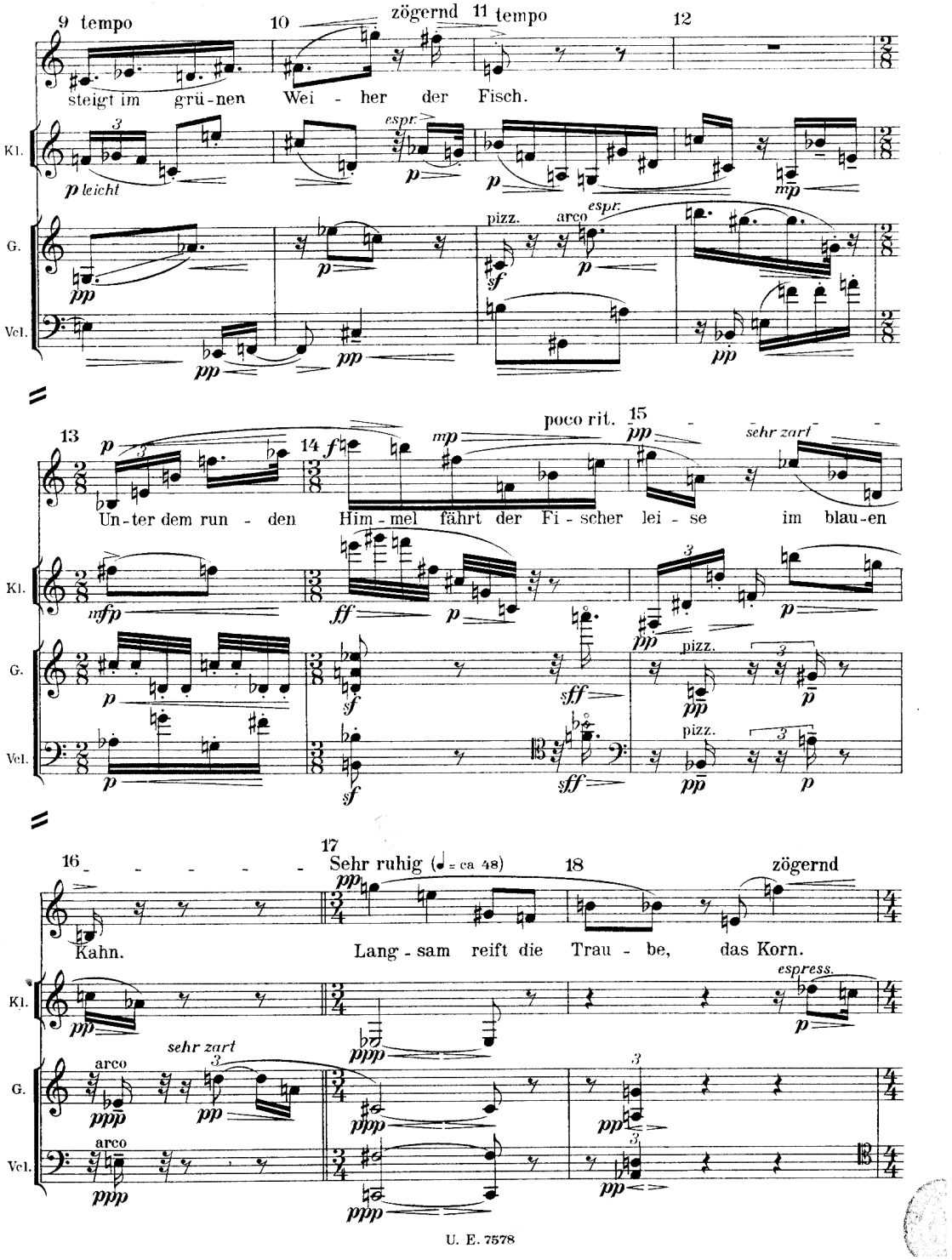
Example 19: Webern, Six Pieces for Orchestra, Op. 6, no. 1, bars 1-3, wind and brass only



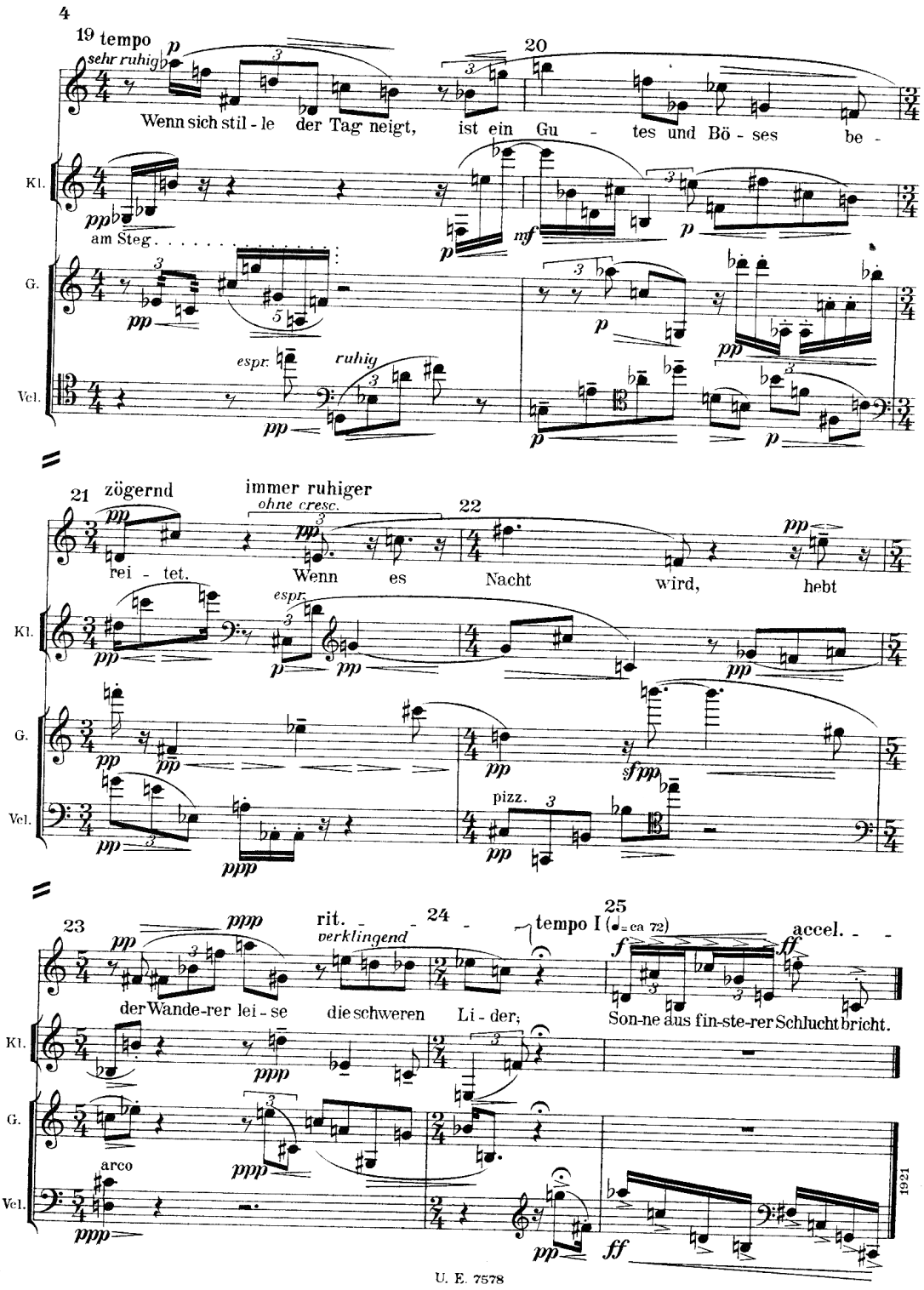
Example 20: Webern, Five Movements for String Quartet, Op. 5, no. 5, bars 1-4



Example 21: Webern, Six Songs on Trakl texts, Op. 14 (1 of 15)

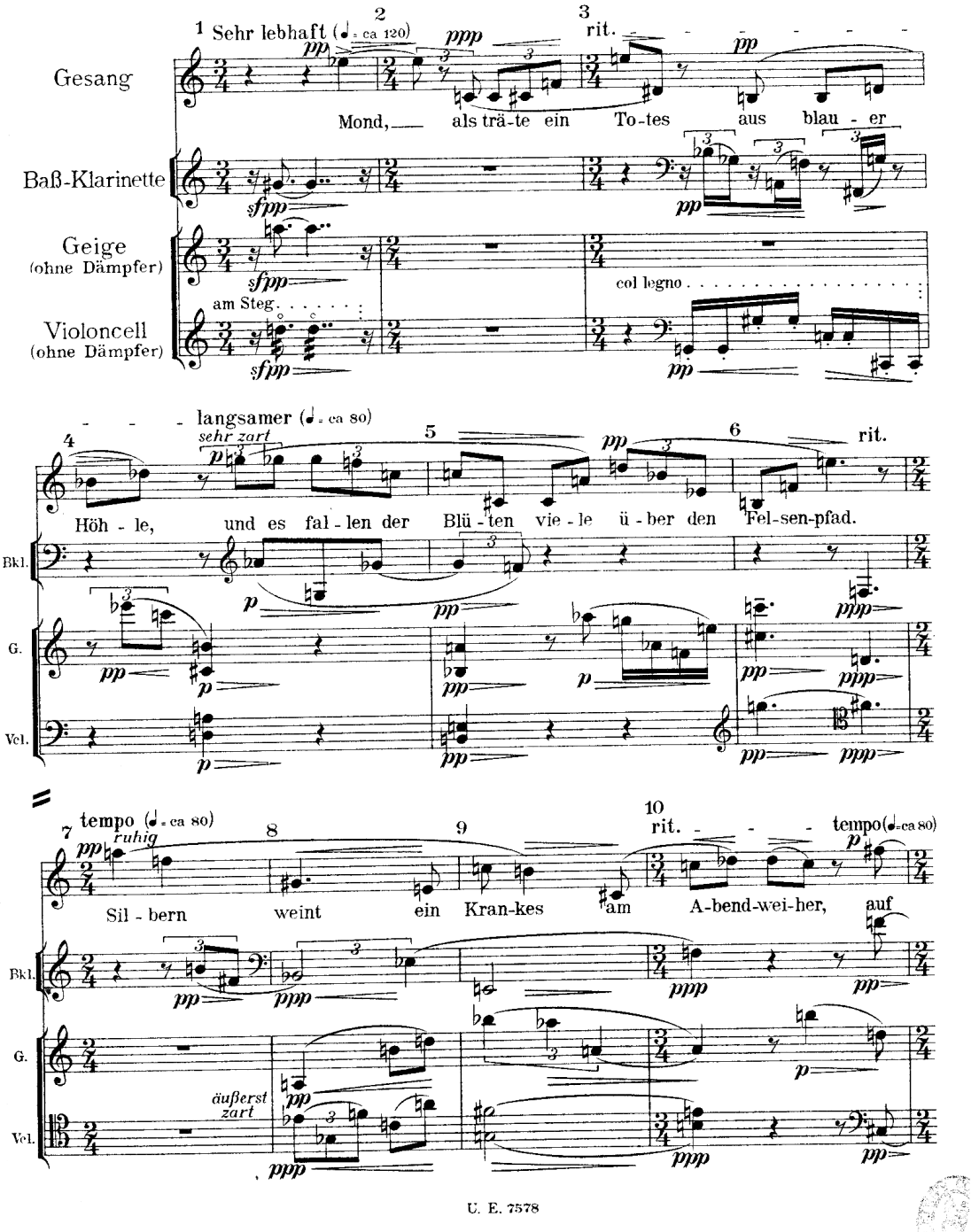


Example 21: Six Songs, Op. 14 (2 of 15)

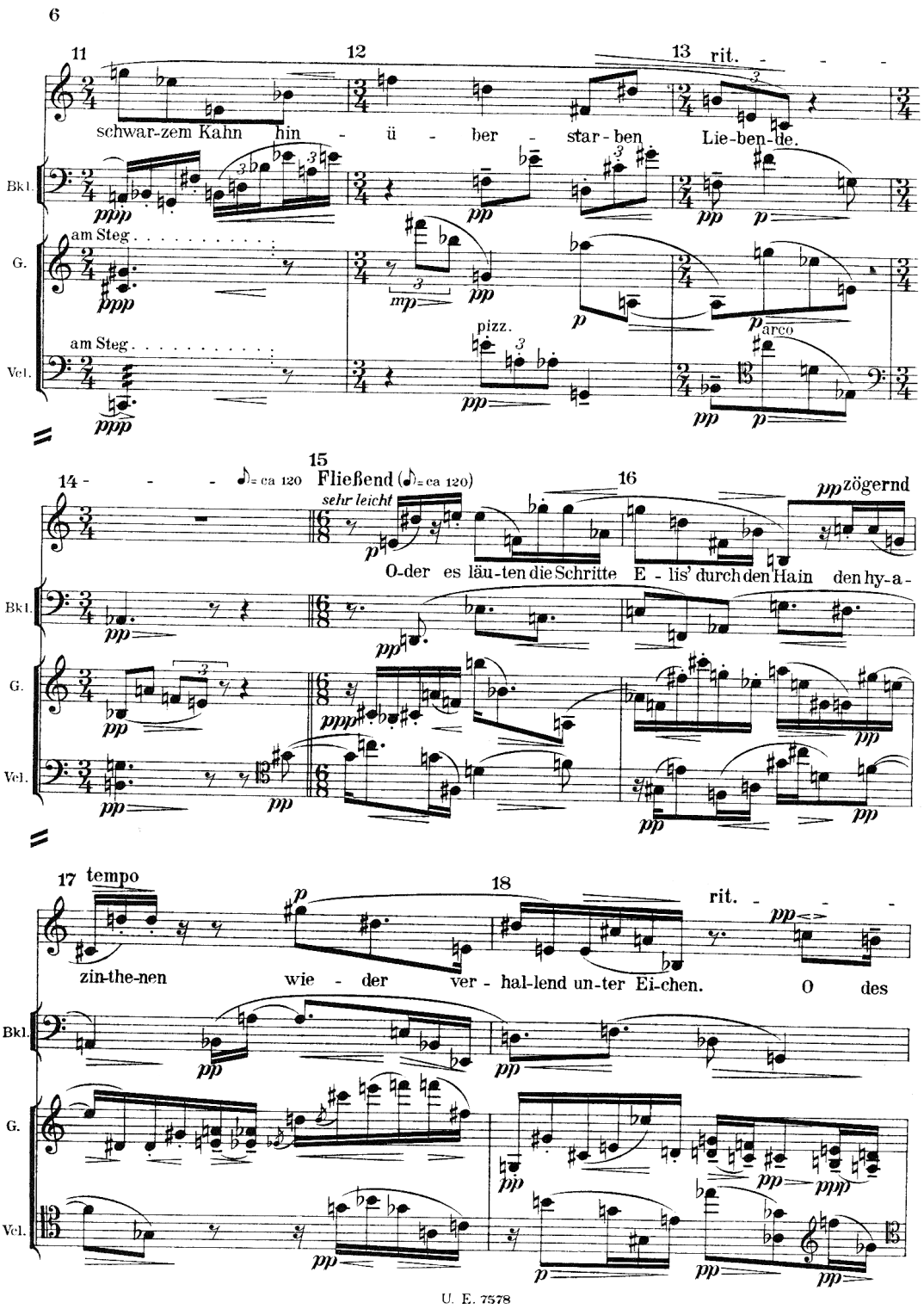


Example 21: Six Songs, Op. 14 (3 of 15)

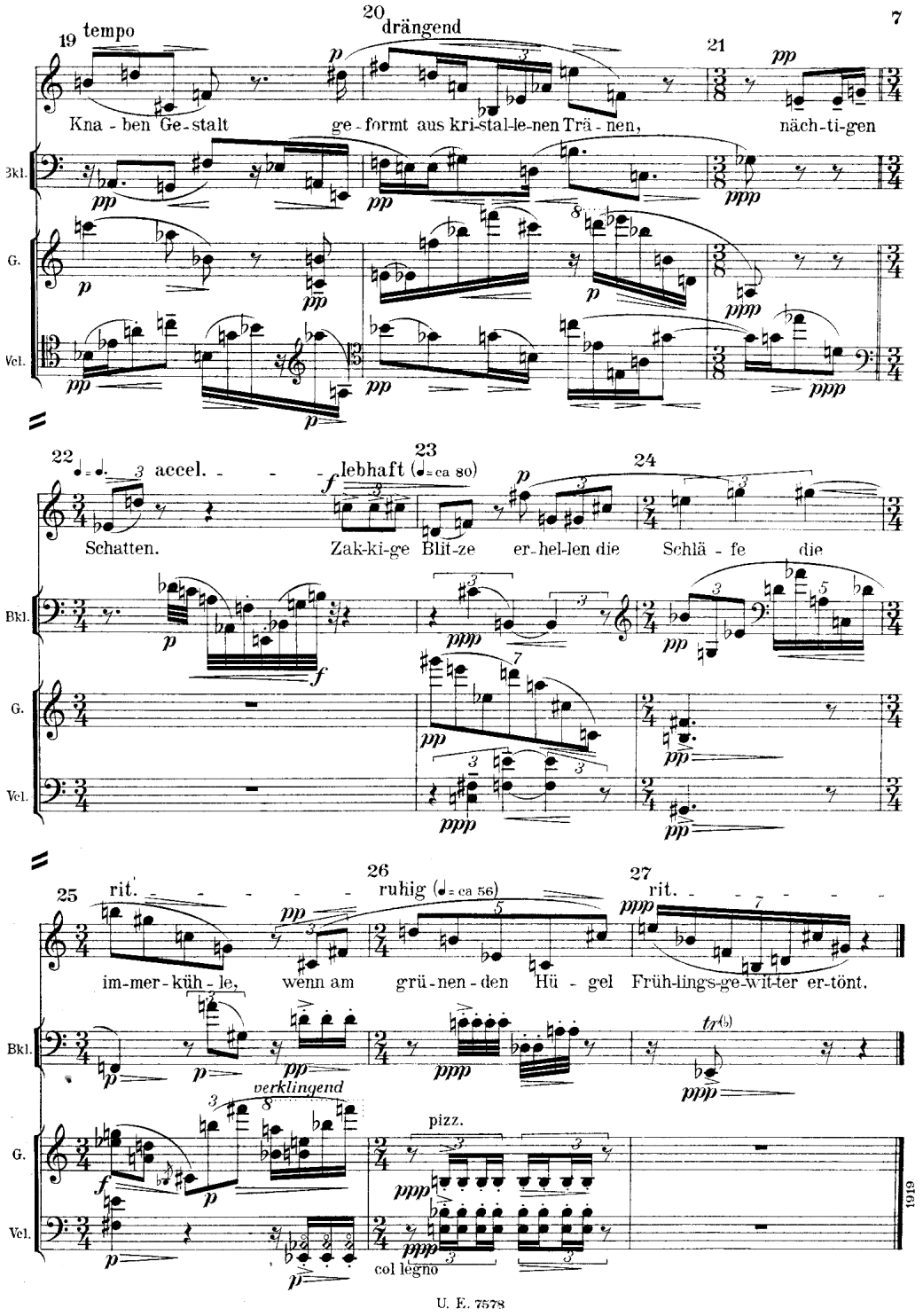
Abendland I



Example 21: Six Songs, Op. 14 (4 of 15)

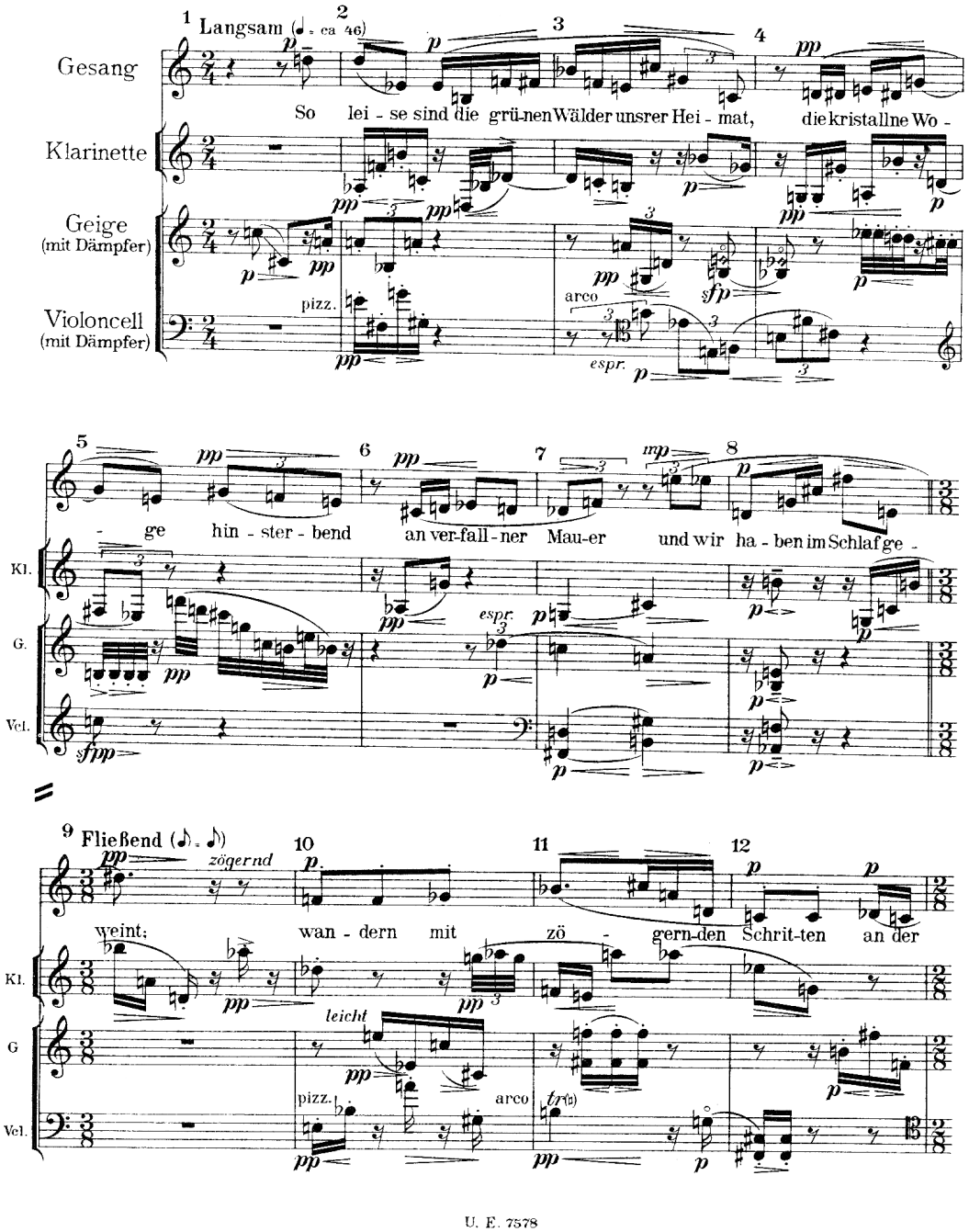


Example 21: Six Songs, Op. 14 (5 of 15)

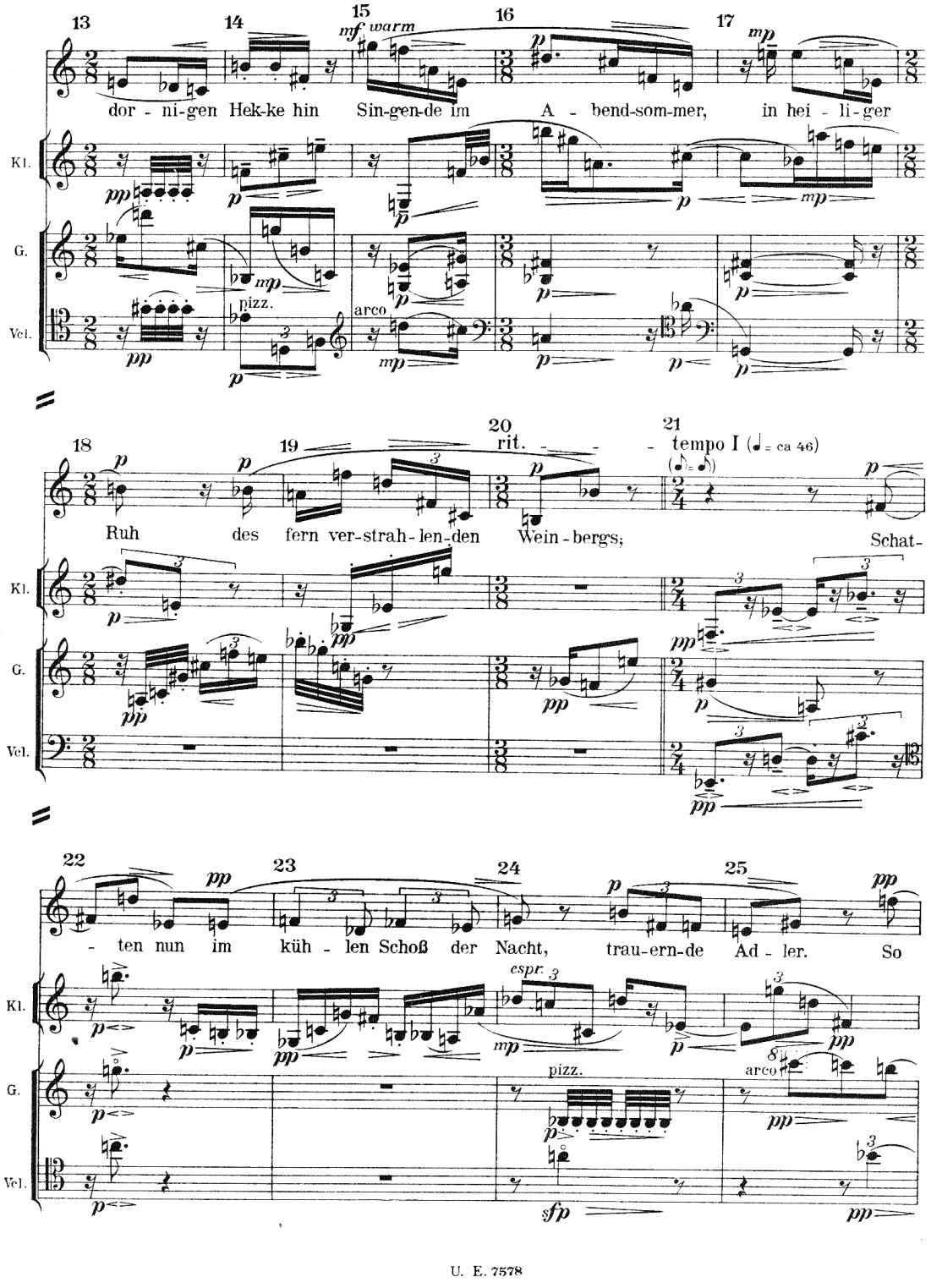


Example 21: Six Songs, Op. 14 (6 of 15)

Abendland II



Example 21: Six Songs, Op. 14 (7 of 15)



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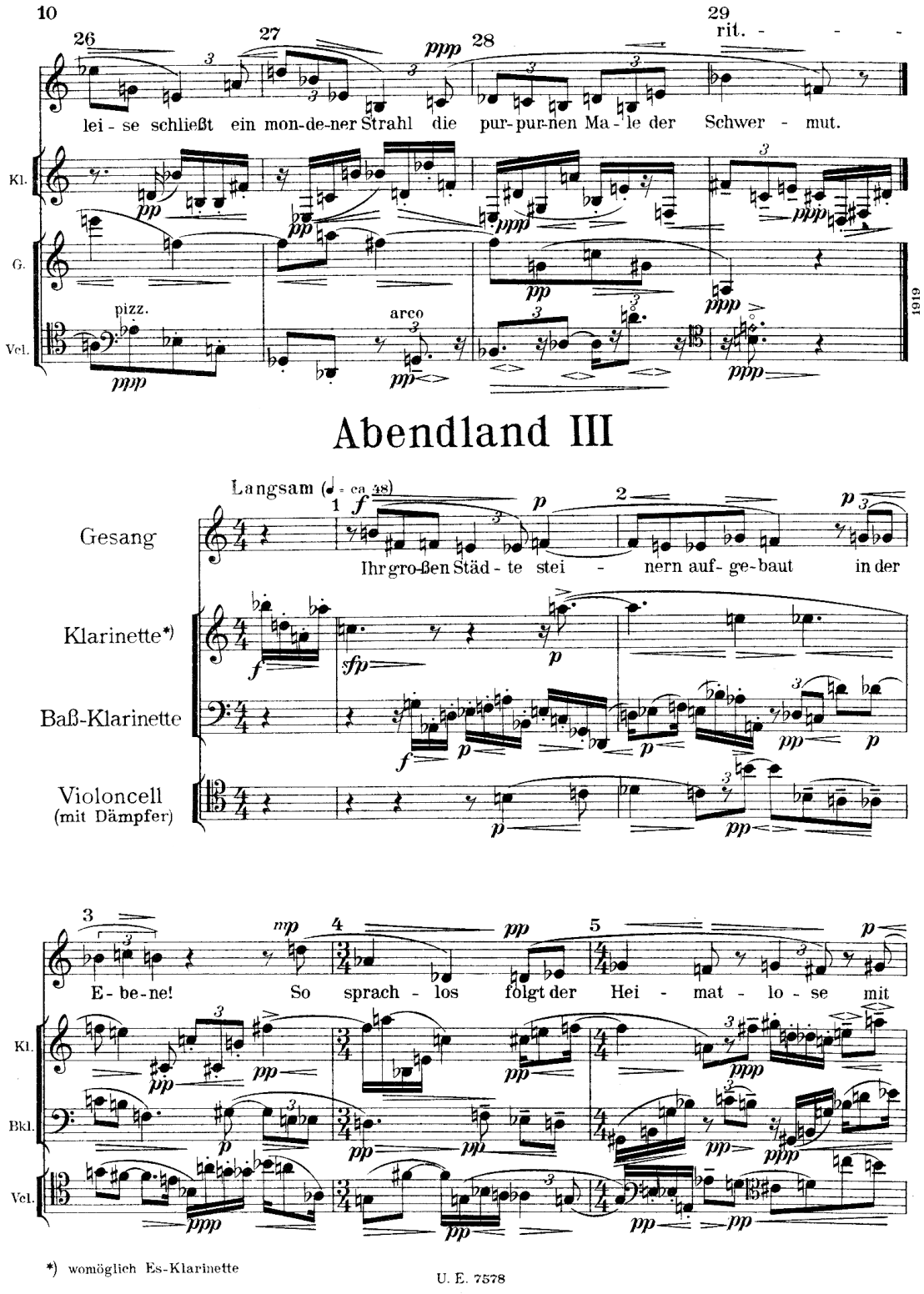
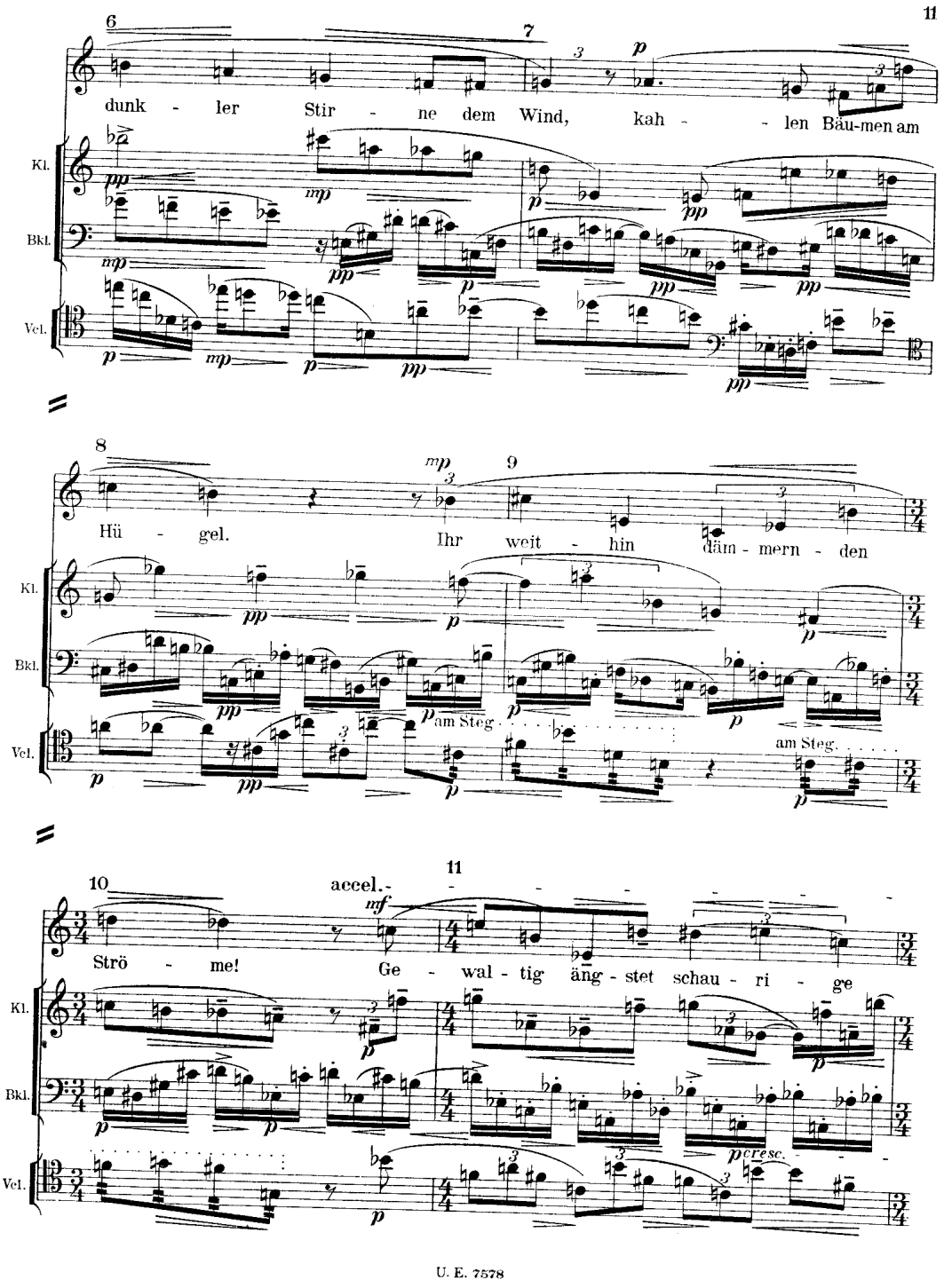
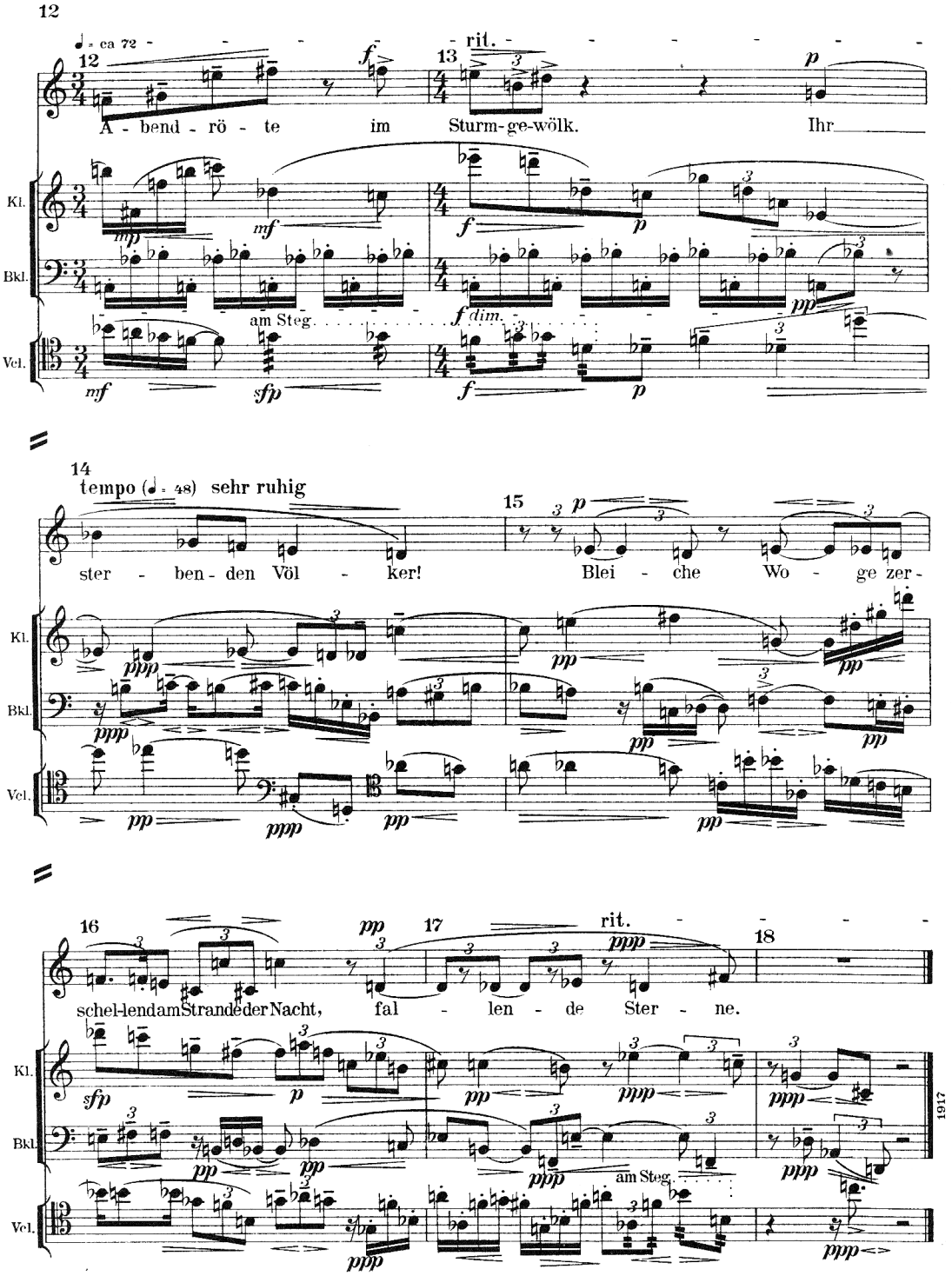
Example 21: Six Songs, Op. 14 (8 of 15)



Example 21: Six Songs, Op. 14 (9 of 15)

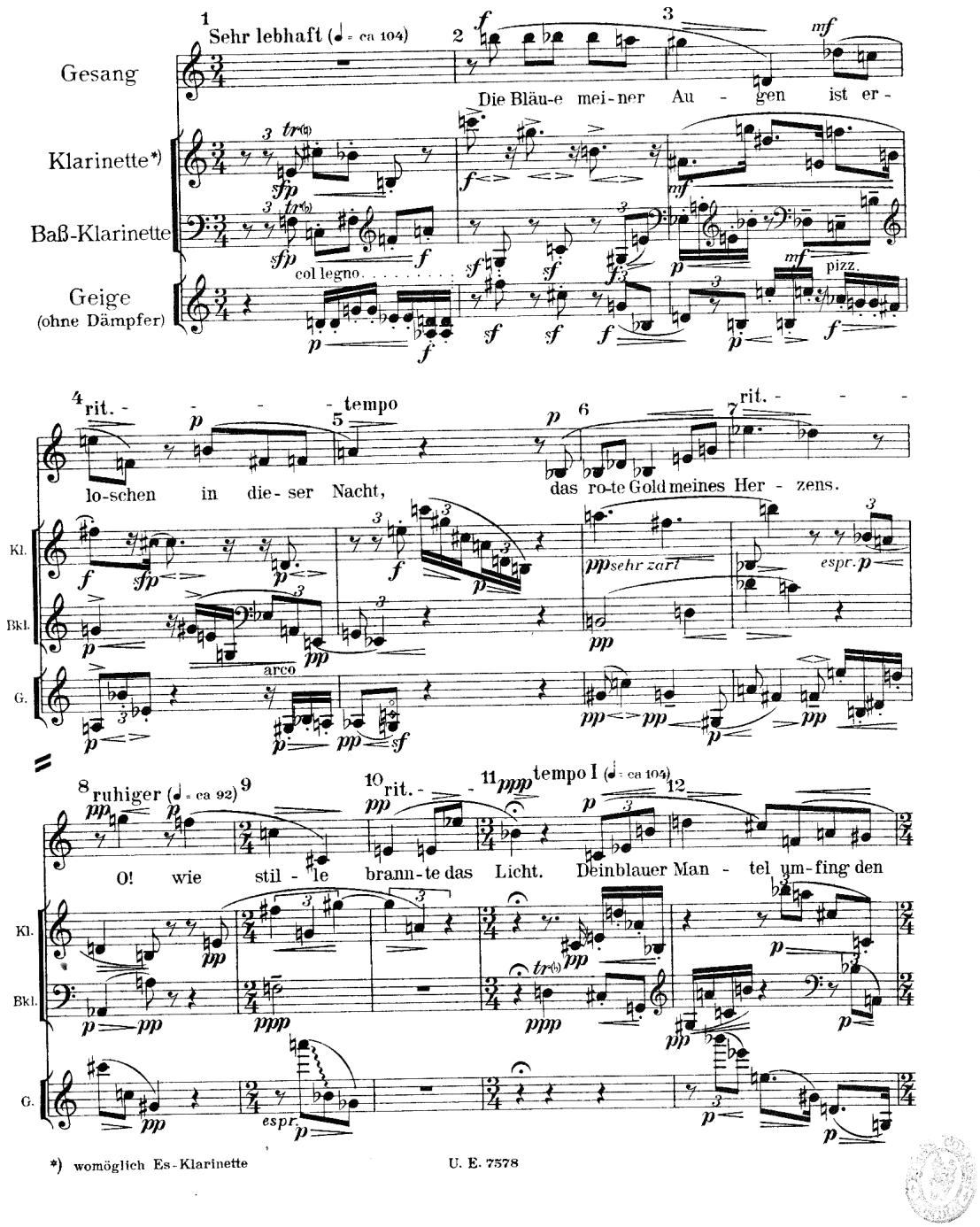


Example 21: Six Songs, Op. 14 (10 of 15)

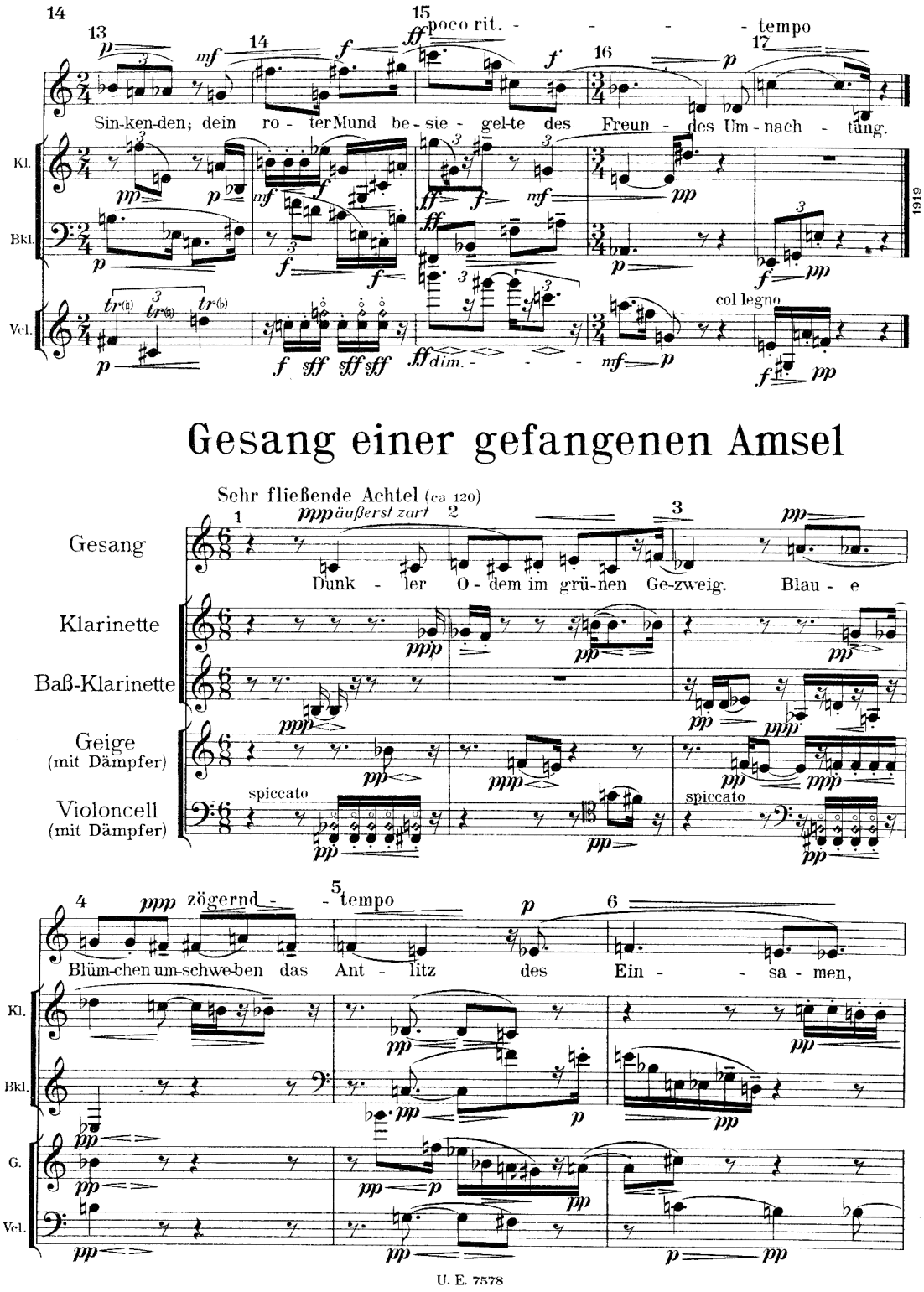


Example 21: Six Songs, Op. 14 (11 of 15)

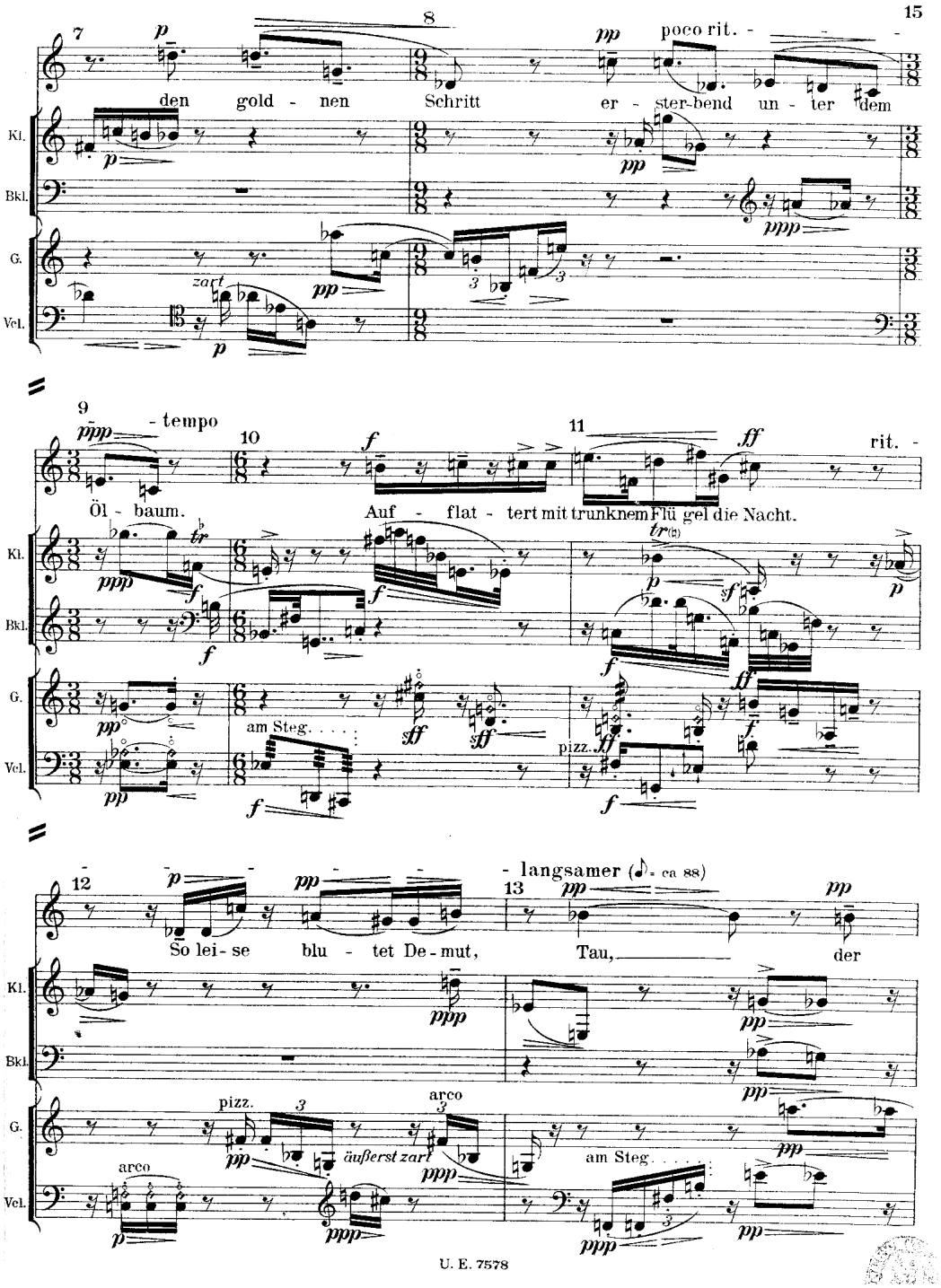
Nachts



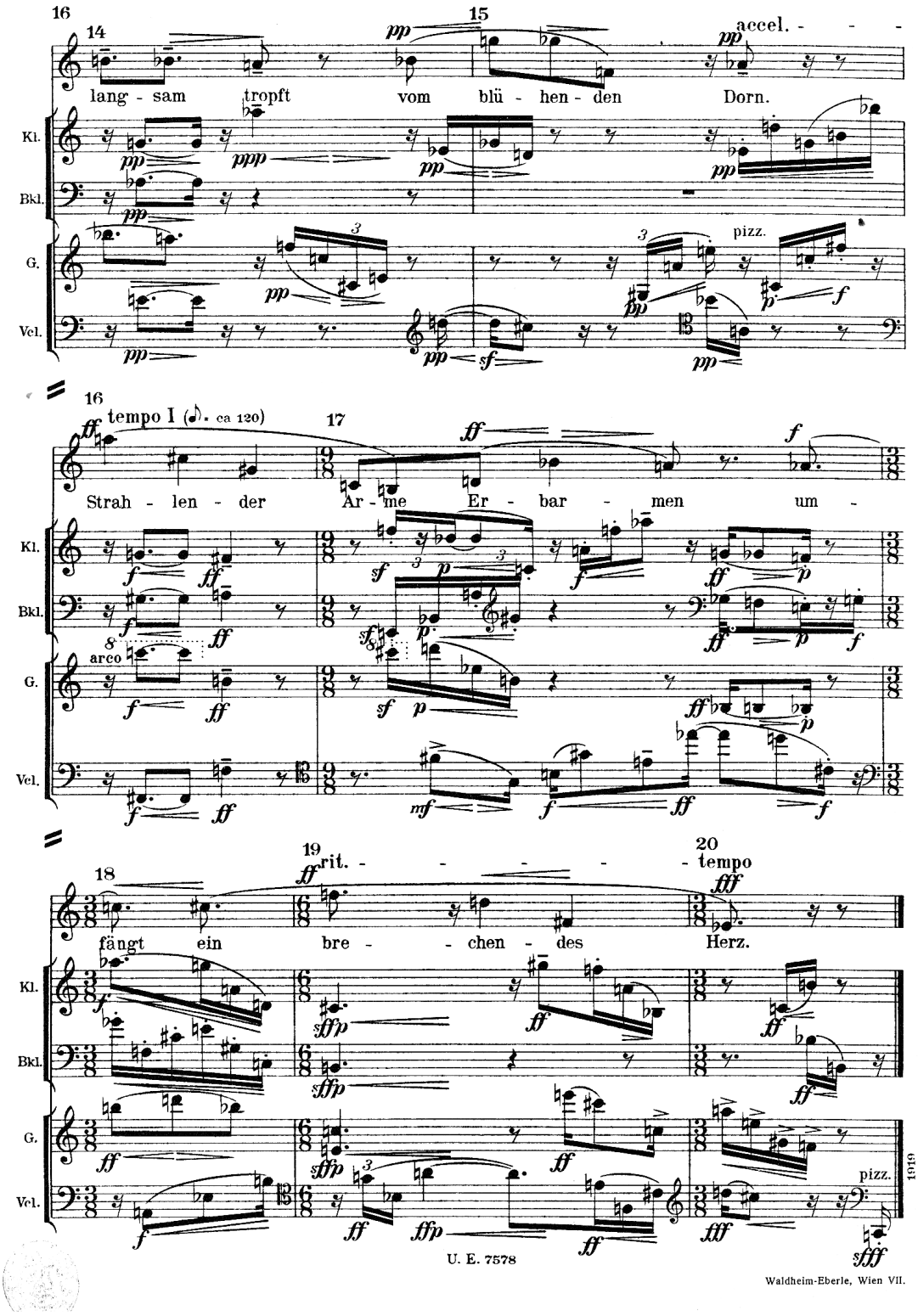
Example 21: Six Songs, Op. 14 (12 of 15)



Example 21: Six Songs, Op. 14 (13 of 15)



Example 21: Six Songs, Op. 14 (14 of 15)



Example 21: Six Songs, Op. 14 (15 of 15)

Appendix D: The Trakl poems

The poems from Georg Trakl's *Sebastian im Traum*[861] set by Webern in the Six Songs on Trakl Texts, Op. 14. With English translations by Lucia Getsi.[862]

Die Sonne

Täglich kommt die gelbe Sonne über den Hügel.
Schön ist der Wald, das dunkle Tier,
Der Mensch; Jäger oder Hirt.
Rötlich steigt im grünen Weiher der Fisch.
Unter dem runden Himmel
Fährt der Fischer leise im blauen Kahn.
Langsam reift die Traube, das Korn.
Wenn sich stille der Tag neigt,
Ist ein Gutes und Böses bereitet.
Wenn es Nacht wird,
Hebt der Wanderer leise die schweren Lider;
Sonne aus finsterer Schlucht bricht.

The Sun

Daily the yellow sun comes over the hill.
Beautiful is the forest, the dark animal,
The man; hunter or shepherd.
Redly the fish glides upward in the green pond.
Under the round heavens
The fisherman softly sails in a blue boat.
Slowly ripen grape and grain.
When day descends into stillness,
A good thing and an evil one is prepared.
When night falls,
The wanderer gently lifts his heavy eyelids;
Sun breaks from the dark gorge.

Abendland I

Mon, als träte ein Totes
Aus blauer Höhle,
Und es fallen der Blüten
Viele über den Felsenpfad.
Silbern weint ein Krankes
Am Abendweiher,
Auf schwarzem Kahn
Hinüberstarben Liebende.

[861] Trakl (1915).
[862] Trakl (1973), reproduced as quoted in Shreffler (1994b).

Oder es läuten die Schritte
Elis' durch den Hain
Den hyazinthenen
Wieder verhallend unter Eichen.
O des Knaben Gestalt
Geformt aus kristallenen Tränen,
Nächtigen Schatten.
Zackige Blitze erhellen die Schläfe
Die immerkuhle,
Wenn am grünenden Hügel
Frühlingsgewitter ertönt.

The Occident I

Moon, as it a dead thing emerged
From a blue cave,
And many flowers fall
Across the rocky path.
Silver a sick thing weeps
By the evening pond,
In a black boat
Lovers moving toward death.

Or else Elis's footsteps
Ring through the grove,
The hyacinth-like
Again fading under oaks.
Oh the boy's shape
Formed from crystal tears,
Nocturnal shadows.
Jagged lightning illuminates his temples
Perpetually cool,
When on the green-growing hill
The thunder of spring resounds.

Abendland II

So leise sind die grünen Walder
Unsrer Heimat,
Die kristallne Woge
Hinsterbend an verfallner Mauer
Und wir haben im Schlaf geweint;
Wandern mit zögernden Schritten
An der dornigen Hecke hin
Singende im Abendsommer,
In heiliger Ruh
Des fern verstrahlenden Weinbergs;
Schatten nun im kühlen Schoß
Der Nacht, trauernde Adler.
So leise schließt ein mondener Strahl
Die purpuren Male der Schwermut.

The Occident II

So quiet are the green forests
Of our homeland,
The crystalline wave
Dying on a fallen-down wall
And we wept in our sleep
Wander with hesitant steps
Along the thorny hedge
Singers in the evening summer,
In holy peace
Of vineyards radiant in the distance;
Shadows now in the cool lap
Of night, grieving eagles.
Thus quietly a moonbeam closes
The purple wounds of sorrow.

[Translation slightly modified]

Abendland III

Ihr großen Städte
Steinern aufgebaut
In der Ebene!
So sprachlos folgt
Der Heimatlose
Mit dunkler Stirne dem Wind,
Kahlen Bäumen am Hügel.
Ihr within dämmerden Ströme!
Gewaltig ängstet
Schaurige Abendröte
Im Sturmgewolk.
Ihr sterbenden Völker!
Bleiche Woge
Zerschellend am Strande der Nacht,
Fallende Sterne.

The Occident III

Ye mighty cities
Built up from stone
In the plain!
Just as mute
And with a darkened forehead
The homeless man follows the wind,
Bare trees on the hill.
Ye distant twilit rivers!
The ghostly sunset
Stirs violent fear
In the thunderheads.

Ye dying people!
Pale wave
Breaking on the beach of night,
Falling stars.

Nachts

Die Bläue meiner Augen ist erloschen in dieser Nacht,
Das rote Gold meines Herzens. O! wie stille brannte das Licht.
Dein blauer Mantel umfing den Sinkenden;
Dein roter Mund besiegelte des Freundes Umnachtung.

The blue of my eyes is extinguished in this night.
The red gold of my heart. O how still the light burned.
Your blue robe surrounded the sinking one,
Your red mouth sealed the friend's derangement.

Gesang einer gefangenen Amsel

Dunkler Odem im grünen Gezweig.
Blaue Blümchen umschweben das Antlitz
Des Einsamen, den goldenen Schritt
Ersterbend unter dem Ölbaum.
Aufflattert mit trunkenem Flügel die Nacht.
So leise blutet Demut,
Tau, der langsam tropft vom blühenden Dorn.
Strahlender Arme Erbarmen
Umfängt ein brechendes Herz.

Song of a captured blackbird

Dark breath in green branches.
Small blue flowers suspended around the face
Of the lonely man, his golden step
Dying away under the olive tree.
Night flutters up on drunken wings.
Meekness bleeds gently,
Dew dripping slowly from the blossoming thorn.
Compassion of radiant arms
Enfolds a breaking heart.

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